



**This electronic thesis or dissertation has been
downloaded from Explore Bristol Research,
<http://research-information.bristol.ac.uk>**

Author:
Winterton, Melanie

Title:
Haptic Air-scapes, Materiality, and the First World War
An Anthropological-Archaeological Perspective, 1914 - 2018

General rights

Access to the thesis is subject to the Creative Commons Attribution - NonCommercial-No Derivatives 4.0 International Public License. A copy of this may be found at <https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode>. This license sets out your rights and the restrictions that apply to your access to the thesis so it is important you read this before proceeding.

Take down policy

Some pages of this thesis may have been removed for copyright restrictions prior to having it been deposited in Explore Bristol Research. However, if you have discovered material within the thesis that you consider to be unlawful e.g. breaches of copyright (either yours or that of a third party) or any other law, including but not limited to those relating to patent, trademark, confidentiality, data protection, obscenity, defamation, libel, then please contact collections-metadata@bristol.ac.uk and include the following information in your message:

- Your contact details
- Bibliographic details for the item, including a URL
- An outline nature of the complaint

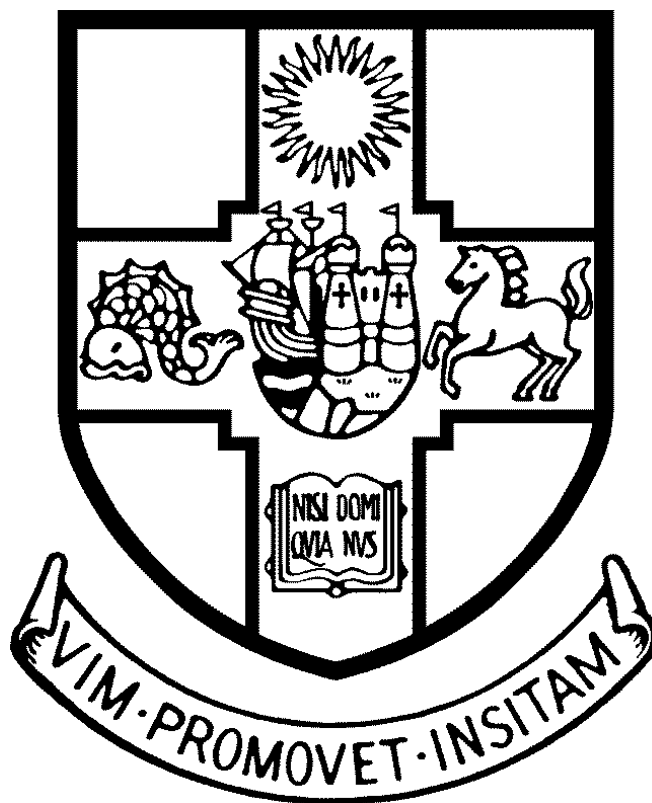
Your claim will be investigated and, where appropriate, the item in question will be removed from public view as soon as possible.

**HAPTIC AIR-SCAPES, MATERIALITY, AND
THE FIRST WORLD WAR:
AN ANTHROPOLOGICAL-ARCHAEOLOGICAL
PERSPECTIVE, 1914–2018**

MELANIE R. WINTERTON

UNIVERSITY OF BRISTOL

DEPARTMENT OF ANTHROPOLOGY AND ARCHAEOLOGY



**A dissertation submitted to the University of Bristol in accordance
with the requirements for award of the degree of PhD in the Faculty
of Arts, Department of Anthropology and Archaeology**

May 2018

Word count: 78,185

ABSTRACT

This research focuses on First World War aviators' relationships with their aircraft from a sensorial anthropological-archaeological perspective. It offers a dimension of materiality that makes an original contribution to knowledge and complements our ideas about culture and aviation history. The diaries and memoirs of First World War aviators were 'interrogated' for their experiences, which were, in essence, first-person subjective phenomenological accounts. Participant observation – a sensory ethnography – was adopted by the author flying in an open-cockpit biplane.

A conceptualisation of 'haptic air-scape' is proposed to structure aviators' descriptions of their sensory experiences while flying open-cockpit biplanes, and to materialise their phenomenological experiences in terms of charting the beginnings of modern sensibilities in aviation. Pilots experienced new corporeal feelings, and their senses were reconfigured and culturally constructed as they learned to engage in a new way of moving in the hitherto unexplored realm of the air.

The conceptualisation of haptic air-scape has many dimensions. The material world shaped aviators' responses to the emotions of fear and anxiety they experienced on a daily basis. The thesis examines how the physical, supernatural and superstitious relationships between First World War aviators, their aircraft, and the haptic world of flying became reified in material culture. It categorises different kinds of lucky mascots carried by airmen in an attempt to focus on the nature of their attachment to objects within their conflict air world.

Adding an emotional dimension to this concept, the thesis also focuses on wooden aeroplane propellers that were retrieved from crashed aeroplanes and recycled into temporary propeller grave markers. Adopting a biographical approach, the thesis identifies and analyses events in the social life of these propeller grave markers. These objects directed the behaviour of visitors to cemeteries (the bereaved, comrades, and tourists), thereby lending substance to the idea that objects make people as the living created a relationship with the deceased.

The First World War, a war of *matériel*, caused unprecedented death and destruction, yet also initiated creativity and individuality in unexpected ways. The thesis analyses how pieces of crashed aircraft were transformed into trench art that became memory objects in key locations of post-war homes, imbued with stories and emotions, and thereby affording the objects a new significance, and providing them with a powerful presence today as commemorative legacies.

ACKNOWLEDGEMENTS

I wish to extend my gratitude to the people and institutions whose help made this research possible.

First and foremost, I give my heartfelt thanks to my supervisor, Professor Nicholas Saunders, whose continuous patience, advice, support, inspiration, and enthusiasm never waned. I am also grateful to the Arts and Humanities Research Council who funded this research.

I acknowledge the support received from staff at the Commonwealth War Graves Commission, Imperial War Museum, RAF Museum Hendon, Shuttleworth Collection, Worcester Yeomanry Museum, the Brotherton Library at Leeds University, *Cross & Cockade International*, David and Kitty Freund, and Paul Cabeldu.

I would also like to thank my husband, Philip, for his constant encouragement and for always being interested and enthusiastic in my work even though I was locked away in my study for long periods of time.

... those who meet the members of a squadron in their hours of ease, among gramophones and pictorial works of art suggestive of luxury, forget that an actor in a tragedy, though he play his part nobly on the stage, is not commonly tragic in the green-room. If they desire intensity and gravity, let them follow the pilot out on to the aerodrome and watch his face in its hood, when the chocks are pulled away, and he opens the throttle of the engine. No Greek sculpture is finer in its rendering of life and purpose. To see him at his best they would have to accompany him, through the storm of the anti-aircraft guns, into those fields of air where every moment brings some new trial of the quickness of his brain and the steadiness of his nerve. He is now in the workshop where tradition is made, to be handed down as an heirloom to the coming generations. It will not fail to reach them. The Royal Air Force is strong in the kind of virtue that propagates itself and attains to a life beyond a life. The tradition is safe.

(Sir Walter Raleigh 1922: Loc. 373–379.)

AUTHOR'S DECLARATION:

I declare that the work in this dissertation was carried out in accordance with the requirements of the University's *Regulations and Code of Practice for Research Degree Programmes* and that it has not been submitted for any other academic award. Except where indicated by specific reference in the text, the work is the candidate's own work. Work done in collaboration with, or with the assistance of, others, is indicated as such. Any views expressed in the dissertation are those of the author.

SIGNED:

DATE:

AUTHOR'S NOTE

Parts of this thesis have been published in modified versions as:

Winterton, M., 2012. Absent Parachute. *World War I Centenary: Continuations and Beginnings*, [online]. Available from: <http://ww1centenary.oucs.ox.ac.uk/machineaesthetic/absent-parachute/>

Winterton, M. 2012a. 18-Pounder Artillery Shells: The Great War Recycled and Re-Circulated. *World War I Centenary: Continuations and Beginnings* [online]. Available from: <http://ww1centenary.oucs.ox.ac.uk/machineaesthetic/18-pounder-artillery-shells-the-great-war-recycled-and-re-circulated-2/>

Winterton, M. 2015. 'Woof': Mascots and the First World War in the Air. In R. Mahoney, ed. *First World War in the Air*. London: Royal Air Force Museum, 106–111.

CONTENTS

LIST OF FIGURES, TABLES, AND CHARTS	xi
ABBREVIATIONS	xviii
CHAPTER 1: INTRODUCTION	1
STATEMENT OF SIGNIFICANCE	2
CONFLICT AIR-SCAPE AND HAPTICS	3
The ‘nature’ of the conflict air-scape: physical realities of flying	4
FEAR, ANXIETY, AND SUPERSTITION	5
MATERIAL MEMORIES: SOUVENIRS AND TRENCH ART	6
IDENTIFYING THE RESEARCH TOPIC	7
Aviators and aircraft: the Royal Flying Corps 1914–1918	8
SECOND OR THIRD-HAND EXPERIENCE OF VISITORS TO A MUSEUM LONG AFTER THE WAR HAS ENDED?	12
RESEARCH OBJECTIVES AND QUESTIONS	14
(a) Research objectives	14
(b) Research questions	15
STRUCTURE OF THESIS	15
CHAPTER 2: LITERATURE REVIEW, THEORETICAL APPROACHES, AND METHODOLOGIES	
INTRODUCTION	18
LITERATURE REVIEW	18
MODERN CONFLICT ARCHAEOLOGY: SEEING THE FIRST WORLD WAR IN A NEW PERSPECTIVE	18
CULTURAL HISTORY	22
SOCIAL HISTORY	25
CONTEMPORARY WARTIME PUBLICATIONS	26
THE AVIATORS	27
MATTERS OF AIR	30
THEORETICAL APPROACHES	34
MATERIAL CULTURE AND MATERIALITIES	34
(a) Trench art	38
(b) Materialisation of superstition	41
(c) Sensory anthropology and archaeology	42

(d) Towards a haptic approach	45
METHODOLOGIES	47
RESEARCH METHODS	47
INFLUENCES ON METHODS ADOPTED	48
(a) Gathering text as primary evidence – an archive archaeology	48
(b) Auto-ethnography	48
CONCLUDING COMMENTS	49
CHAPTER 3: CASE STUDY 1 EXPERIENCING A FIRST WORLD WAR AVIATOR’S	
HAPTIC AIR-SCAPE	
INTRODUCTION	50
SPATIAL, PHYSICAL, AND ENVIRONMENTAL DIMENSIONS OF A HAPTIC	
AIR-SCAPE	52
(a) The haptic space of an aviator: a world of verification	52
(b) Dressed to fly	53
(c) Adapting to the physical and environmental extremes of a haptic air-scape ..	56
MAN AND MACHINE: THE CULTURAL TRANSFORMATION OF THE HUMAN	
BODY	60
(a) Pilot – aeroplane relationship	60
(b) Re-configuring the sentient human body	62
(c) Re-configuring the senses	63
(d) New haptic thresholds	69
(e) Haptic activities	70
(f) Communication	74
SENSE OF PERCEPTION RE-CONFIGURED	77
(a) Altering cultural perceptions of time, space, speed, and distance	77
(b) Spatial disorientation: confusing the senses	80
CONCLUDING COMMENTS	82
CHAPTER 4: CASE STUDY 2 MATTERS OF FEAR AND ANXIETY: LUCKY MASCOTS	
INTRODUCTION	83
CATEGORIES OF AVIATORS’ LUCKY MASCOTS	85
(a) Defining a mascot	88
(b) Lucky mascots at the beginning of the twentieth century	88
DECONSTRUCTING THE SURREAL WORLD OF THE AVIATOR	89

(a) Category (A): Commercially made, sold as a lucky charm	90
(i) Kewpie dolls and Fum’s up! charms	90
(ii) Nénette and Rintintin	96
(b) Category (B): Charms with religious significance	98
(c) Category (C): Lucky pocket pieces, often with survival story	103
(d) Category (D): Lucky sayings, omens and rituals	107
(e) Category (E): Objects traditionally associated with good luck in folklore	112
(f) Category (F): Personal object infused with special/intimate meaning personal to the aviator	114
CONCLUDING COMMENTS	119

CHAPTER 5: CASE STUDY 3 EMOTIONAL BIOGRAPHIES OF PROPELLER GRAVE

MARKERS

INTRODUCTION	121
EVENTS IN THE LIFE OF A PROPELLER GRAVE MARKER	122
(a) Pre-acquisition event	123
(b) Acquisition event	127
(c) Manufacture event	129
(d) Erection event and funeral	131
(e) Post-war visitation event	135
(f) Lost or destroyed event	147
(g) Donation elsewhere event	151
CONCLUDING COMMENTS	154

CHAPTER 6: CASE STUDY 4 MAKING SENSE OF MATTER – FROM *BEING* TO

BECOMING

INTRODUCTION	156
(a) Aviation-related souvenirs: an air war of ‘souveniring’	157
(b) Trench art	161
WOOD FROM CRASHED AEROPLANES THAT BECAME TRENCH ART	163
(a) Walking stick	163
(b) Landscape painting on a broken propeller	166
(c) Propeller photograph frame	169
(d) Propeller dinner gong	173
(e) Propeller clocks	174

LINEN FROM CRASHED AEROPLANES THAT BECAME TRENCH ART	177
(a) Black-faced devil with red horns insignia	179
(b) Love heart insignia	180
(c) Linen as artist’s canvas.....	183
METAL THAT BECAME TRENCH ART	186
(a) Letter openers and button hooks	186
(b) Trench art models of miniature biplanes	188
CONCLUDING COMMENTS	191
CHAPTER 7: ANALYTICAL DISCUSSION AND CONCLUSIONS	
ANALYTICAL DISCUSSION	193
CONCLUSIONS	205
RESEARCH QUESTIONS	205
REVIEW OF RESEARCH OBJECTIVES	215
RESEARCH IMPLICATIONS	216
Beyond air-scape: other applications for conflict research	216
FINAL COMMENTS	218
ENDNOTES	219
BIBLIOGRAPHY	223
APPENDICES	
APPENDIX 1: GLOSSARY	252
APPENDIX 2: FIELD NOTE BOOK	257
APPENDIX 3: TRANSCRIPT OF COMMUNICATION BETWEEN PILOT AND PASSENGER DURING FLIGHT IN TIGERMOTH BIPLANE	263

LIST OF FIGURES, TABLES, AND CHARTS

FIGURES

Figure 1	Saint Omer airfield, France, 2012 (© author).	9
Figure 2	Memorial at Saint Omer, France, commemorating members of the British Air Services who served on the Western Front during the First World War – over 50,000 by the Armistice 4,700 were killed (© author).	9
Figure 3	Map of northern part of the Western Front (http://etc.usf.edu/maps/pages/3600/3695/3695.gif).	10
Figure 4	Every pilot and observer in this photograph has been labelled a ‘flying ace’, having brought down at least three enemy aircraft (author’s photo).	12
Figure 5	Replica of Bristol F.2B Fighter, made from parts sourced from six aeroplanes, representative of the aeroplane flown by Captain William Harvey, 22 Squadron (© author, courtesy Trustees of the RAF Museum, Hendon).	13
Figure 6	Bristol F2b D8096 fighter and reconnaissance aircraft, built in 1918 but did not see wartime service. Autumn flight display day, Old Warden Aerodrome, Old Warden, Bedfordshire, 2011 (© author).	14
Figure 7	This receipt from Burberry’s, dated 3 April 1918, survives amongst the personal papers of Lt. J. Stuart Castle, RFC (courtesy Liddle Collection, AIR 65).	54
Figure 8	Royal Flying Corps leather Pattern flying mask designed to protect the face from the elements, including windburn and frostbite (© RAF Museum).	57
Figure 9	Aerial photograph. Area: River Ancre to River Somme. La Bassée Canal to River Scarpe (General Staff, 2013 [1917]. <i>Notes and Illustrations on the Interpretation of Aeroplane Photographs. Series A.</i> Brighton & London: First Publishing & National Army Museum, Plate 4).	65
Figure 10	Interpretative sketch of aerial photograph above, at figure 9 (General Staff, 2013 [1917]. <i>Notes and Illustrations on the Interpretation of Aeroplane Photographs. Series A.</i> Brighton & London: First Publishing & National Army Museum, Plate 4).	66
Figure 11	Stereoscopic viewer and simple eye piece (General Staff, 2013 [1917]. <i>Notes and Illustrations on the Interpretation of Aeroplane Photographs. Series A.</i> Brighton & London: First Publishing & National Army Museum, Plate 45).	67
Figure 12	An observer demonstrating the precarious stance required to use the rear-facing Lewis gun, Ste. Marie-Cappel, France, 1918 (© IWM (Q69650)) (https://www.iwm.org.uk/collections/item/object/205087090).	71

Figure 13	Knee desk, strapped to aviator's upper leg to enable him to make notes without disturbing his ability to operate his controls while flying (© IWM (EQU 3834)) (https://www.iwm.org.uk/collections/item/object/30015858).	73
Figure 14	Red devil mascot. This red devil belonged to pilot Frank Bowles (© and courtesy of <i>Cross & Cockade International</i>) (https://www.crossandcockade.com).	79
Figure 15	Habare Wood can be seen marked as being square-shaped on the centre of this map sketched by pilot Leslie Bickel (courtesy Liddle Collection, AIR 026).	80
Figure 16	Trench art aeroplane mascot, possibly made commercially (https://www.peoplescollection.wales/items/414528) (https://www.peoplescollection.wales/creative-archive-licence).	85
Figure 17	Kewpie doll, jointed at the shoulders to enable movement of the arms with painted facial features. Note the 'Kewpie Germany' inside a red heart. Height 12cm (© Victoria and Albert Museum, London) (https://www.vam.ac.uk/moc/collections/kewpie-doll/).	90
Figure 18	Postcard from the Fum's Up! set, Oilette Series Postcard No. 8792A. This postcard is entitled 'The Optimist'. First date used 28 June 1915 (author's postcard).	91
Figure 19	<i>Verso</i> of the postcard describing FUMS UP! From the Fum's Up! set, Oilette Series Postcard No. 8792A) (author's postcard).	92
Figure 20	Fum's Up! charm (© Australian War Memorial REL33983).	93
Figure 21	The printed message that accompanied the Fums Up! charm (http://photos1.blogger.com/6470/992/1600/Fums%20up1.jpg)	94
Figure 22	Advertisement displaying three types of good luck charms and mascots, <i>The Tatler</i> , 26 July 1916 (©Illustrated London News Ltd/Mary Evans).	94
Figure 23	Air Mechanic Henry James Marston's aluminium identity disc with three lucky charms (© Australian War Memorial REL33983).	95
Figure 24	Sketch by Francique Poulbot detailing a street child playing with Nénette and Rintintin charms (Poulbot 1917).	96
Figure 25	Example of Nénette, Rintintin, and a baby. Made of white and pale pink wool, joined together with a line of wool. Height: 50m. Width: 30mm (© IWM (EPH 004664)).	97
Figure 26	Front side of First World War USAAS pilot's religious charm. Made from sterling silver with small enamelled areas in red and white representing the USAAS pilot wings. The charm also depicts St. Christopher above the pilot wings. Made by medallist and jeweller W.O. Lewis, Howard Works, Birmingham, established 1832, and still owned and operated by the same family (© author).	99

Figure 27	Rear side of First World War USAAS pilot's religious charm (© author).	99
Figure 28	3-D model of a monoplane in gold-coloured metal, made in 1916 (© IWM (EPH 3471)).	100
Figure 29	Royal Flying Corps pilot charm presented as trench art, constructed in the image of a Handley Page O/400 aeroplane (© author).	105
Figure 30	'Fums Up!' aircraft name-board. This sign belonged to 2nd Lt. John Raymond Chisman, who served with 204 Squadron, RAF, in 1918. He flew a number of Sopwith Camels – all named 'Fums Up!' after a phrase his sister used to sign-off letters to him (Accession No. 0012588) (© RAF Museum).	108
Figure 31	Sprig of white heather carried by Major M. Mitchel-Clarke (Accession No. 80c991) (© RAF Museum).	112
Figure 32	Unidentified crew of RE8 biplane, 1918. The observer has a lucky charm attached to the top of his helmet – a black cat (Accession No. X007-0458) (courtesy RAF Museum).	113
Figure 33	Black cotton velvet cat, the lucky mascot of First World War pilot, Gordon Taylor (© Australian War Memorial, REL58023) (http://www.awm.gov.au/collection/REL/00058.023).	114
Figure 34	Adolphus, the knitted dog mascot (© author, courtesy Liddle Collection, PoW 003).	115
Figure 35	Sunny Jim (© Gerry Crutchley).	117
Figure 36	Royal Flying Corps pilot Gerard Gwyn Crutchley (© Gerry Crutchley).	117
Figure 37	A ¾ inch high blue glass figure of a sitting dog (Accession No. 77C1593) (© RAF Museum).	119
Figure 38	2nd Lt. John Hay, 40 Squadron, RFC (© Historical Collections of Sydney University Regiment) (http://beyond1914.sydney.edu.au/profile/3126/john-hay).	124
Figure 39	Rounded brass plaque with a pair of pilot's brevets engraved at the top. The plaque had been attached to the propeller grave marker that marked the grave of 2nd Lt. John Hay, 40 Squadron, RFC (Accession No. REL23683) (© Australian War Memorial) (https://www.awm.gov.au/collection/C289714).	125
Figure 40	Propeller grave marker of 2nd Lt. John Hay, 40 Squadron, RFC, Aire Communal Cemetery, France (http://beyond1914.sydney.edu.au/profile/3126/john-hay).	125
Figure 41	Fragment of tin funeral wreath plaque, 2nd Lt. John Hay, 40 Squadron (Accession No. 34599) (© Australian War Memorial) (https://www.awm.gov.au/collection/C1142386).	126
Figure 42	Trench art letter opener crafted from the wooden propeller and engine strut of a Sopwith Pup aeroplane. Belonged to RFC Officer Carlos V.	127

Wheatley. Length c. 20cm (Accession No. 96/3) (© author, courtesy Shuttleworth Collection).

- Figure 43** Crashed German biplane with ‘souveniring’ Tommies, note whilst the propeller is still in place, the aeroplane linen has already been souvenired (author’s photo). **128**
- Figure 44** Wreckage of the German Gotha bomber shot down by Lt. Anthony John Arkell and Air Mechanic A.T.C. Stagg, 20 May 1918. The two-bladed propeller can clearly be seen in the foreground (© IWM (Q80749G)). **129**
- Figure 45** Propeller grave marker that marked the grave of Lt. W. Ryder. The grave marker is now situated inside St. Peter’s Church, Little Thurlow, Suffolk (http://thereturned.co.uk/wp-content/uploads/2017/02/Ryder-IMG_2880.jpg). **130**
- Figure 46** Propeller grave marker of Lt. Cutler. The name ‘Cutler’ was initially misspelt on the carving of the letter ‘L’, having to be re-carved from the letter ‘E’ (© author, courtesy Museum of the Worcestershire Yeomanry). **130**
- Figure 47** Propeller grave marker of Brigadier-General Gordon Shephard, with flower wreath from I Brigade (Leslie 1924: 224). **132**
- Figure 48** A single propeller marks the graves of two German aviators, Menin, Brussels (© Bridgeen Fox) (<http://www.greatwar.co.uk/war-graves/german-military-burials-belgium.htm>). **134**
- Figure 49** Lt. Ashwin is buried at the Aubigny-en-Artois Communal Cemetery Extension, approximately 15km northwest of Arras on the road to St. Pol, grave reference Plot IV, Row B, Grave 33 (courtesy of the Commonwealth War Graves Commission) (<https://www.cwgc.org/find-a-cemetery/cemetery/5300/aubigny-communal-cemetery-extension/>). **136**
- Figure 50** Propeller grave marker of Lt. Guy Ashwin, L Flight, 1st Wing, RAF. Aubigny-en-Artois Communal Cemetery Extension, approximately 15km northwest of Arras on the road to St. Pol, France (© Liz Walton). **137**
- Figure 51** Aeroplane Cemetery, West-Vlaanderen, Belgium – before the CWGC erected the Portland stone headstones (courtesy Australian War Memorial, J00650) (Public Domain Mark 1.0). **138**
- Figure 52** Entrance to the Aeroplane Cemetery, West-Vlaanderen, Belgium after the CWGC erected the Portland stone headstones (courtesy Australian War Memorial, H12636) (Public Domain Mark 1.0). **139**
- Figure 53** German scout aeroplane brought down over Allied lines, Western Front, France (author’s photo). **140**
- Figure 54** Sketch detailing location of Bertangles Aerodrome, France (courtesy Liddle Collection, AIR 35). **141**
- Figure 55** Grave of Major J. McCudden, Wavans British Cemetery, France (© author). **143**

Figure 56	Four RFC graves, Terlincthun British Cemetery, Wimille, France (© author).	143
Figure 57	Children near Ostend, Belgium, collecting spent cartridge cases, bullets and other objects as playthings and souvenirs of the fighting (<i>The War Illustrated</i> Volume I, 1914: 431).	144
Figure 58	Civilians hunting in the grass searching for German bullets and other souvenirs of the war, Senlis, northern France (<i>The War Illustrated</i> Volume I, 1914: 431).	144
Figure 59	(Left): Trench art biplane with twin propeller blades, stamped 'Ypres', souvenir of the First World War (© author).	145
Figure 60	(Right): Trench art biplane with twin propeller blades, stamped 'Ypres', souvenir of the First World War (© author).	145
Figure 61	Close-up view of an aviator's grave, Laventie Military Cemetery, La Gorge, France (© author).	148
Figure 62	Propeller grave marker for Captain Eric Horace Comber-Taylor (© Peter Jeffery) (http://www.geograph.org.uk/photo/3805350).	149
Figure 63	The base of the propeller grave marker for Captain Eric Horace Comber-Taylor (© Peter Jeffery) (https://www.warmemorialsonline.org.uk/memorial/133727/).	149
Figure 64	Propeller grave marker for Captain Eric Horace Comber-Taylor (© Martin Snow) (http://sussexchurches.co.uk/images/twineham/pages/DSC00188.htm)	150
Figure 65	Propeller grave marker for Lt. Herbert Cecil Cutler (© author, courtesy Museum of the Worcestershire Yeomanry).	152
Figure 66	Lt. H.C. Cutler in his car in 1916, before he went to the Western Front (© and courtesy Museum of the Worcestershire Yeomanry).	152
Figure 67	Grave of Lt. Cutler, Templeux-le-Guerard British Cemetery, Somme, France, Grave II.E.22 (© rememberthefallen.co.uk).	153
Figure 68	Shot-down German Fokker biplane, Cambrai Front, France. The aeroplane tail and fuselage have been stripped of the painted cloth insignia by troops as souvenirs (author's photo).	158
Figure 69	German photograph of RFC Sopwith Pup aircraft downed behind enemy lines. A Vickers machine gun from the aircraft can be seen in the foreground (author's photo).	159
Figure 70	Wooden two-bladed propeller from a German Gotha GV aeroplane. Height: 204mm. Length: 310cm. Width: 356mm (© IWM (AIR 209)) (https://www.iwm.org.uk/collections/item/object/30000144) (IWM Non-commercial licence).	159

Figure 71	Wreckage of the German Gotha bomber shot down by Lt. Anthony John Arkell and Air Mechanic A.T.C. Stagg, 20 May 1918 (© IWM (Q80749G)).	160
Figure 72	Informal photograph of Lt. Anthony John Arkell and Air Mechanic A.T.C. Stagg beside the wreckage of the German Gotha bomber, England, 20 May 1918 (© IWM (Q80749H)).	161
Figure 73	Trench art wooden trinket box made from the wooden propeller of a First World War aeroplane. Provenance unknown. Length: 18.40 cm (© Bombphoons Vintage Aviation Memorabilia).	162
Figure 74	Walking stick made from aircraft propeller (© IWM (EPH 9305)) (http://www.iwm.org.uk/collections/item/object/30089063) (IWM Non-commercial licence).	164
Figure 75	Section of a wooden propeller blade with a painted scene depicting a RFC aeroplane flying through anti-aircraft explosions. Dimensions: length 45cm x width bottom 20cm, width top 15cm (© IWM (EPH 9961)) (http://www.iwm.org.uk/collections/item/object/30089722) (IWM Non-commercial licence).	167
Figure 76	Front and back of trench art style photograph frame, with photographs of unknown serviceman and his friends and family, made from the wooden propeller tip of a First World War aeroplane. Dimensions: Length: 44cm; bottom width: 22cm; top width: 6cm (© author).	170
Figure 77	Text written on the back of a postcard picture of the soldier framed in the trench art propeller photograph frame, at figure 77, above (author's postcard).	171
Figure 78	Trench art dinner gong made from wooden aeroplane propeller (http://www.bbc.co.uk/ahistoryoftheworld/objects/r9mO6jrITKeljSM-Xt4kBw).	173
Figure 79	Trench art propeller clock – original complete propeller was fitted to a 110 HP Clerget rotary engine, 1915 (© author, courtesy of the Shuttleworth Collection).	176
Figure 80	Trench art propeller clock from the archive stores of the Shuttleworth Collection. Provenance unknown (© author, courtesy of the Shuttleworth Collection).	176
Figure 81	Linen insignia of Handley Page O/100 1466 (Accession No. 70/C/987) (© RAF Museum).	179
Figure 82	Love heart motif from the linen tail fin of Sopwith Camel B6313 flown by Lt. Col. William Barker (Accession No. 79/Y/2043) (© RAF Museum).	181
Figure 83	Major William Barker standing in front of Sopwith Camel B6313. The white painted arrow is visible on the port tail fin (courtesy of <i>Cross & Cockade International</i>) (www.crossandcockade.com).	182
Figure 84	Wrecked German AEG IV bomber biplane, painted with lozenge-pattern camouflage. Hit by anti-aircraft fire, crashed in flames near Villers-Bretonneux, Somme, France, 16 May 1918 (Accession No. AO1895)	184

(courtesy Australian War Memorial)
(<https://www.awm.gov.au/collection/C37860>).

Figure 85	‘Libido of the Forest’, a watercolour, painted on crashed aeroplane linen, by Paul Klee in 1917. Stored at the Metropolitan Museum of Art, New York. The Berggruen Klee Collection, 1984 (Accession No. 1984.315.11) (courtesy of the Metropolitan Museum of Art, New York).	185
Figure 86	Trench art letter opener (© author).	186
Figure 87	Trench art button hook (© author).	186
Figure 88	Model 1: Trench art model of biplane with 4-bladed propeller. Width: c. 16cm (© author, courtesy Shuttleworth Collection).	188
Figure 89	Model 2: Trench art model of biplane with 2-bladed propeller. Width: c. 16 cm (© author, courtesy Shuttleworth Collection).	189

TABLES

Table 1	The senses of touch	51
Table 2	Aviators’ lucky mascots, omens, sayings and rituals: categories of superstition	86
Table 3	Events of social interaction in the social life of a propeller grave marker	122
Table 4	Examples of cemeteries in France and Belgium containing the graves of First World War aviators, visited by author in 2012	142

CHARTS

Chart 1	First World War Aviators: Categories of Superstition	87
----------------	--	-----------

ABBREVIATIONS

AWM	Australian War Memorial
CWGC	Commonwealth War Graves Commission
MCA	Modern Conflict Archaeology
RAF	Royal Air Force
RFC	Royal Flying Corps
RNAS	Royal Naval Air Service
USAAS	United States Army Air Service

INTRODUCTION

The material world shapes and transforms us ... It shapes our sensory experiences, our emotional responses, our social organisation ... and our understanding of the world (Boivin 2008: 181).

This is an interdisciplinary study on the sensorial and material relationships between First World War aviators, their 'primitive' biplanes, and a contested air-space over the Western Front of France and Belgium between 1914 and 1918, here conceptualised as a 'conflict air-scape'.

While there has been much research on aviation history and technology, there has been comparatively little on the relationships that materialised between the aviator and his aircraft. Given the trans-disciplinary complexity of this study, an interdisciplinary approach has been adopted to provide perspectives and understandings addressing the overlapping issues of materiality, sensoriality, and technology in First World War aviation. As an example of wartime *matériel*,¹ aeroplanes possess anthropological and archaeological significance within the intellectual framework of the material culture paradigm (Miller and Tilley 1996; Tilley et al 2006).

A modern conflict archaeology (hereafter MCA) approach has been adopted because it focuses on the 'social, cultural, psychological, and technological as well as military complexities of recent conflicts and their powerful unpredictable legacies' (Saunders 2012b: x). Whilst 'the very familiarity ... of the world around us leaves us to leave it unquestioned' (Graves-Brown 2000a: 1), MCA provides the tools to explore areas that remain unaddressed by, for example, history, battlefield archaeology, and aviation excavation. As an object of war, aeroplanes represent 'material correlates for ... intimate personal experiences, [and] individual stories' (Shanks et al 2004: 61–62) as they bear witness to past conflict.

First World War aeroplanes possess value as anthropological-archaeological objects through their cultural associations and legacies. These legacies live on because material memories of these aircraft survive in people's homes, in museums, as photographs, and as mentions in aviators' written memoirs and diaries, creating new perspectives on the conflict as they follow different trajectories and create varying relationships with those with whom they come into contact. As the material remains of

the war become our heritage, so MCA, as a hybrid of anthropology and archaeology, allows us to focus on the relationships between culture and the material worlds of the recent past (Hodder 1982a, 1982b; Miller 1983, 2002 [1994]; Saunders 2003a; Rathje 1981: 51–52). It is for these reasons that this fundamentally interdisciplinary approach has been adopted for this research.

STATEMENT OF SIGNIFICANCE

This thesis contributes to the anthropological study of material culture by focusing on the relationship between First World War aviators and their aeroplanes. It also contributes to archaeology through the sub-discipline of MCA which is a hybrid of archaeology and anthropology (particularly material culture studies and sensorial anthropology). The main contributions are:

- Documenting and analysing for the first time issues concerning the Royal Flying Corps/Royal Air Force (RFC/RAF) which have only previously been dealt with in terms of aviation/military history, and thereby bringing them into the arena for anthropological and archaeological analysis.
- An inter-disciplinary assessment of the concept of spatiality in terms of understanding human-machine relationships in the first air war, itself part of the world's first globalised conflict, and human-object relationships in terms of mediating the role of talismans.
- A participatory observation approach to part of the fieldwork which included flying an open-cockpit biplane in order to add a personal experiential dimension to the sensory foci of the research. In light of this, the meticulous examination of published and unpublished written records to extract experiential data then used to complement and add context to the personal experience of flying. These experiences were part of the phenomenological approach which underwrote much of the research agenda.
- In terms of archaeology, to make a distinctive contribution to the interdisciplinary study of MCA where different ways of looking at the recent conflicted past offer new interdisciplinary views on the nature of corporeal engagement in industrialised conflict air-space along the Western Front. To my knowledge, this research is the only undertaking of its kind to have moved away from the earth's surface into the spatial realm of the air, and juxtaposing terrestrial conflict landscapes with a new conceptualised 'air-scape'. While focused on 1914–1918,

and comparatively primitive aerial technologies, this research nevertheless opens a door to further investigation of human-aeroplane relationships in a form of conflict which came to dominate the twentieth century.

- In terms of anthropology, to contribute to the debate on how we understand the relationships between men and flying machines (non-existent before the twentieth century), in terms of how human experiences and emotions become infused in and around objects which, for the first time in human history, are able to move in a controlled way through the air. The research draws particular attention to the haptic aspects of aerial conflict experiences and demonstrates how air-scapes are connected to a range of lived experiences relating to luck, memory, experience, and the human senses. It contributes to the development of material culture anthropology in particular by introducing new case studies from the dawn of a unique technological development (aircraft) in the context of industrialised conflict, and investigating the processes by which humans learned to operate in this arena, and the varied ways in which experiential, psychological, and 'spiritual' aspects coalesced into a distinct set of activities. In this way, the research contributes to an ever-closer relationship between archaeology and anthropology through the shared focus on human-object interaction in general, and in the aerial dimension of conflict in particular.

CONFLICT AIR-SCAPE AND HAPTICS

The *Oxford English Dictionary* defines 'air' as 'the open space above the surface of the earth' (Waite 2012 [1979]: 14). Landscape need not be regarded as solely the physical surface of the world. There is a 'below' (Edholm 1993: 139–164), and an above, which is physical and metaphysical as well as immaterial since air cannot be grasped. In this thesis, it is the dimension where aeroplanes fly.

The earth can be considered a tripartite environment in that it has a surface (the ground), below surface (underground), and above surface (the sky). How can the realm of the above be conceptualised in archaeology and anthropology? Flying was a new technology and the First World War brought this tripartite division to the fore. The term landscape is insufficient for analytical purposes here, and so I use the term air-scape, recognising that 'scapes' are cultural processes (Hirsch 1995: 23). In this sense, air-scape can be understood as perceiving a world of embodied experience and sensorial realities and, from a phenomenological perspective, it is not just a backdrop to pilots' flying

activities, but requires gainful experiential mastery of new ways of moving and being in a hitherto unknown environment.

This thesis focuses on the challenging experiences of powered flight in and through the air during conflict, of how to reach it and return from it. Pilots had to learn not only how to navigate through visible weather such as rain, mist, and clouds, but how to sense/feel their way through unseen and potentially lethal conditions such as cross winds, updraft, oxygen depletion, and air pressure. The First World War configures and invents the third dimension as air-scape, a scape that is real and experienced rather than imaginary or philosophical.

Heidegger (2005 [1962]) introduced the phrase '*being-in-the-world*' to emphasise how human beings are both situated in and inseparable from the world that surrounds them. It follows that, being widely acknowledged as a war of *matériel*, the First World War has many depths and dimensions, many of which are amenable to anthropological analysis. One dimension of conflict air-scape involves haptics, the sense of touch in all its forms. This could relate well to First World War pilots as they experienced new ways of moving and being in a new environment.

The 'nature' of the conflict air-scape: physical realities of flying
First World War pilots were confronted with something never before encountered. MacCarron (2006: xi) wrote '[t]ravelling in the comfort of today's aircraft, even in the sometimes cramped seats of economy class, cannot conceive of the Spartan conditions endured in the exposed cockpit of a Blériot.² Perhaps this can be compared to cycling downhill at speed in to a strong icy wind?'. The 'nature' of the conflict air-scape, i.e. the physical realities that challenged pilots, is an important consideration:

Often at high altitudes we flew in the air well below freezing point. Then the need to clear a jam or change a drum meant putting an arm out into an icy 100 mph wind. If you happened to have bad circulation (as I had), it left the hand numb, and since you could not stamp your feet, swing your arms, or indeed move at all, the numbness would spread to the other hand and sometimes to the feet as well. In this condition we often went into a scrap (Lewis 2009 [1936]: 170).

Competent flying would not necessarily save an aviator for the fragile biplanes, made from wood and linen, could break up at any time in a space which is buffeted by strong winds. In this space, vision was often restricted, and even denied, as calculations of speed and distance were challenged by rain, hail, and snow in freezing temperatures. The natural agency of wind-driven cloud, rain or snow could cause occasions of 'drift'

whereby a pilot had to steer in one direction in order to go in the other. Low-flying reconnaissance aeroplanes were well within the sights of ground-based German machine guns and rifles taking pot shots. Take offs and landings were very risky, often doing so from the uneven surface of a field:

Nov 1914 – No. 3 Sqn moved to a new aerodrome at Choques, whose landing strip had been a beetfield with a very uneven surface. Luckily, a nearby Indian cavalry had a roller, which was borrowed to help with the levelling process, but still the boots of every available man in the squadron were needed and the unit marched and counter-marched to press down the beet roots. Even after all this treatment the ground was still soft and just about good enough for landing, so the CO ordered quantities of cinders from a nearby gasworks, which improved matters. Hangars were erected but gales would spring up to blow them down again, while the rain poured in torrents. In an attempt at drainage, deep ditches were dug around the hangars and every so often a loud splash, accompanied by curses would announce that another unfortunate mechanic had fallen in. Despite the awful conditions, artillery reconnaissance was continuously undertaken (MacCarron 2006: 71).

There was the danger element that the engine could fail causing the aeroplane to crash to the ground if flown by an inexperienced pilot. Gordon Taylor remembers his sense of timing was paramount when his biplane suffered engine failure:

It gave absolutely no warning, just stopped, leaving me there in appalling silence. It was my first experience of engine failure; in slightly less than one minute I knew I would be on the ground. Whether intact or not depended on what I did within the next three seconds (Taylor 1968: 30).

The conflict air-scape was a truly horrendous and disorientating ‘world’ and it is an integral component of my conceptualisation of a haptic air-scape as I investigate how technology might change our understanding of the senses in various ways through the haptic engagement of a pilot body with his aircraft.

FEAR, ANXIETY, AND SUPERSTITION

Another dimension of a pilot’s conflict air-scape involves the emotions of fear and anxiety, for example the fear of being hit by a bullet at any time:

A great deal of an aeroplane could be holed without affecting its ability to fly. Wings and fuselage could be, and often were, pierced in fifty places, missing the occupants by inches (blissfully unaware of how close it had come until they returned to base). Then the sailmaker would carefully cover each hole with a square inch of Irish linen frayed at the edges and with a brushful of dope make our aircraft “serviceable” again within an hour. I have had bullets through my engine, bullets through my tanks, bullets through my windscreen and up through the floor of the

cockpit between my knees and out over my shoulder and even, on one occasion, had the control stick knocked out of my hand by a splinter of wood chipped off the floorboards by a chance shot – yet never, such is the mystery of destiny that one bullet which would have been enough to settle my account (Lewis 1964: ix).

Whilst ‘materiality is an integral dimension of culture, ... there are dimensions of social existence that cannot be fully understood without it’ (Tilley et al 2006: 1), a pilot’s superstition is one such dimension. An integral part of my concept of ‘conflict air-scape’ involves the material dimension of coping with new and dangerous uncertainty through the making/acquisition and ritualised manipulation of talismanic objects.

Many aviators turned to superstition, relying on objects in the form of lucky mascots, participating in rituals, or interpreting omens for good and bad signs. Belief in such things during warfare was not a new phenomenon for the archaeological record is full of examples. For example, in Roman times, representations of male genitals in the form of copper alloy phallic amulets were carried by Roman soldiers in the 1st Century AD as charms to protect against the evil eye and to encourage good luck and bestow male strength upon them (Crummy 1983: 139).

Aviation-connected lucky mascots are extremely rare because many were destroyed in aeroplane crashes. Few such mascots have found their way into museums and those that have seem to have become disconnected from their stories for it is common to donate artefacts to museums with little or no context. It is in the written diaries, letters, photographs, and publications of aviators that we find the most evidence of mascots detailing how airmen engaged with and bestowed meaning upon them. This thesis aims to describe how the physical, spiritual, and superstitious relationships between First World War aviators, aeroplanes and the ‘new’ haptic world of flying are reified in material culture as lucky mascots. It will further categorise the sample of airmen’s mascots used in this research as an original contribution to knowledge.

MATERIAL MEMORIES: SOUVENIRS AND TRENCH ART

Aeroplanes are objects that possess multiple meanings as they move across space and time, and so are the souvenirs and trench art³ which represent them. This thesis will also focus on pieces of crashed aeroplane in the form of wooden propellers, linen, and metal to explore how they were recycled, remade, and recirculated as a further dimension to a conflict air-scape.

Trench art in the form of propeller grave markers became the focus of attention and emotion for bereaved relatives visiting the graves of their loved ones on the Western Front. Additionally, aviators' experiences of their conflict haptic air-scape became memorialised as souvenirs and trench art as they transform into focal points in the domestic sphere of the home. Another dimension of air-scape, therefore, seeks to demonstrate the oft-quoted idea that 'objects make us, as part of the very same process by which we make them' (Miller 2010: 60), focusing on the relationship between things rather than the things themselves, thus endowing people with the ability to comprehend the world as meaningful. As Hodder and Hutson observe, 'material culture does not just passively *reflect* society – rather it creates society through the acts of social agents' (Hodder and Hutson 2003 [1986]: 6), for every object is made by an individual or group of individuals, such as First World War aviators, and not by a social system.

Trench art provides the deceased with a powerful presence today and it is the individual stories of such experiences that this thesis seeks to reveal to apportion value, meaning, and significance upon such commemorative legacies.

Building on these theoretical perspectives, I aim to produce my concept of a haptic air-scape as the cultural dimension that identifies the conflict air-scape of a First World War aviator. The term 'First World War conflict air-scape' might be developed to investigate the relationships between aviators and aeroplanes in terms of the role of ideas and beliefs expressed in material culture. This thesis therefore hopes to offer a nuanced, but hitherto neglected view, of First World War aviators' experiences as a contribution to interpreting what was, at the time, a new and haptically startling dimension of conflict.

IDENTIFYING THE RESEARCH TOPIC

In 1914, flying was a recent and pioneering corporeal experience. Orville and Wilbur Wright had made four flights in the first heavier-than-air fixed-wing aircraft powered by a small petrol engine only a few years before on 17 December 1903, at Kittyhawk, North Carolina (Anon. a. 1904). Such fledgling technology offered a new form of sensorial engagement with a world in the air. In addition to learning to fly and becoming skilled in flying, the new technologies of aerial photography and wireless technology had to be learned and then performed whilst flying. This thesis aims to make sense of an aviator's air-scape and to learn about the sensorium in which he flew.

Aviators and aircraft: the Royal Flying Corps 1914–1918

In 1914 numerous young men went from a world of bicycles, horses, carts (and occasionally motor cars) to joining the RFC. From reading the letters, diaries and books written by these men, it is clear that they joined for different reasons – whether a patriotic desire to fulfil their sense of duty, or simply the excitement of pursuing an adventure, and often both. For Australian Gordon Taylor, flying during warfare ‘seemed to ... be entirely logical, when the alternative was to sit in a trench and get killed without being able to do anything about it. An aeroplane offered a means of individual expression. With it a man could to some extent control his own destiny’ (Taylor 1968: 11–12).

Recognising that the work of the cavalry for reconnaissance-at-a-distance was increasingly redundant, the British Directorate of Military Operations was quick to understand the advantages aviation could bring (Raleigh 1922: Loc. 2845). The RFC was created by Royal Warrant on 13 April 1912, becoming established in May 1912. It consisted of three independent wings – Military (Royal Flying Corps), Naval (Royal Naval Air Service), and a Central Flying School for training pilots (ibid: Loc. 2821). Pilots in the RFC were divided into tactical units called squadrons (ibid: Loc. 2858). The RFC’s motto is *per ardua ad astra*, ‘through adversity to the stars’.⁴ Pilots came from across the world to fly in the First World War – Canada, the United States, New Zealand, Australia, and South Africa. On 1 April 1918, the RFC and the Royal Naval Air Service (RNAS) merged to form the Royal Air Force (RAF), now independent of the British Army and under the control of the new Air Ministry.

The pioneering skills and courage of pilots made flying appear exciting, attracting young men, like Arthur Gould Lee, to join the RFC at the outbreak of war. Heading for the No. 1 Aircraft Depot at Saint Omer, France, the destination of most squadrons deployed to the Western Front and the gateway to France for replacement aircraft and pilots who were posted to units across France and Belgium, pilot Arthur Gould Lee remembers:

I sent just an “I’m here” postcard from the Hotel Folkestone at Boulogne, where we were billeted, for there was nothing much to say except that the sea was rough, and everybody including me, was hopelessly sick. Not the cleverest way to celebrate the first time I’ve been out of England, nor, for that matter, my formal entry into my first war (Gould Lee 1969: 23).

Saint Omer was the site of the largest airfield on the Western Front and was occupied continuously throughout the First World War by over fifty RFC squadrons and was also

the site of a large aircraft repair and storage depot. The Headquarters of the RFC was also in Saint Omer where a night out on the town was a regular social event for members of the RFC. Today, the site of the airfield, although still an aerodrome, is devoid of signs of such hustle and bustle (figure 1).



Figure 1: Saint Omer airfield, France, 2012 (© author).

A memorial commemorating the members of the British Air Services and air forces from every part of the British Empire who served on the Western Front from 1914 to 1918 was erected by Cross and Cockade, the First World War Aviation Historical Society, in 2004, to mark the ninetieth anniversary of the first RFC aircraft to arrive at Saint Omer (figure 2).



Figure 2: Memorial at Saint Omer, France, commemorating members of the British Air Services who served on the Western Front during the First World War – over 50,000 by the Armistice, 4,700 were killed (© author).

Since memory is cultural (Connerton 1989), the memory of the British Air Services has been attributed meaning through the erection of the memorial. However, such memorials often omit the experiences of those being remembered, for 'in every memorial, something has been left out or forgotten ... the omission or exclusion of the pain and horror of war on those memorials' (Buchli and Lucas 2001b: 80). Though paying

a mark of respect to the young men, we should know of their experiences especially now that all people who served in the First World War have passed on and such memorials have become *lieux de memoire* (sites of memory) because '*millieux de memoire*' (original environments of memory) (Nora 1995: 632) have faded away.

This thesis focuses on the RFC and on the aviators' experiences and relationships with objects whilst serving on the Western Front, the main theatre of war during the conflict. It spans over 400 miles of trenches and stretches from the dunes of the West Flanders Belgian coast in the north to the frontier crossing at the village of Pforterhouse on the Swiss-German (Alsace) border in the south (figure 3).

Photograph removed due to permission issue
(<http://etc.usf.edu/maps/pages/3600/3695/3695.gif>)

Figure 3: Map of northern part of the Western Front.

Up until March 1917, aviators in the RFC who undertook reconnaissance duties were regarded as the eyes of the army, adding another dimension to the war on the ground. Aeroplanes were regarded as 'a moving hilltop from which to look over into enemy territory. Balloons had served the same purpose before. They enabled the Commanders

below to have intelligence of what was going on beyond their field of vision' (Lewis 1964: 60).

Aerial photography was a fledgling development and aviators risked their lives to take photographs as the battlefield zone was extended to the air. Low oblique photographs, in particular, were very difficult to take because the aeroplane had to be flown closer to the ground exposing the aviator to enemy fire. In terms of archaeology, such photographs are a potent legacy of the First World War because O.G.S. Crawford, an observer in the RFC, was so impressed with the possibilities of air photography in locating and identifying archaeological sites, that he was instrumental in introducing it to landscape archaeology. Indeed, after the war, Crawford worked at the Ordnance Survey where aerial images checked and supplemented by fieldwork were employed to revise the archaeological information on the Ordnance's maps (Crawford 1921, 1923, 1929).

It was not until 1917 that aerial combat became a means of waging war in the skies and flying aces⁵ became the heroes of the day, the public admiring the death-defying feats undertaken during dogfights:⁶

The great McCudden, now Major McCudden, VC, DSO, MC, etc., just back from the front to get decorated again, came into Murrays last night for dinner and ... what a riot he caused. All the officers went over to his table to congratulate him and the women – well, they fought to get at him just like they do at a bargain counter at home. He's the hottest thing we have now = 54 Huns ... and he's just [received] the VC and a bar to his DSO (White Springs 1966 [1927]: 79–80).

It is perhaps these flying individuals (figure 4) who are remembered most, because the public 'preferred a romantic, glamorous version of the pilot's war to the truth of the fearful days he had known' (Taylor 1968: book cover).



Figure 4: Every pilot and observer in this photograph has been labelled a ‘flying ace’, having brought down at least three enemy aircraft (author’s photo).

In being labelled a flying ace, and through the wearing of bravery medals, the pilot body became a ‘symbol of society ... the powers and dangers credited to social structure reproduced ... on the human body’ (Douglas 2002 [1966]: 142). But in reality, from the outbreak of war until at least March 1917, there were no flying aces, for the RFC was ‘made up of ordinary young men doing their job without thought of glory’ (Gould Lee 1969: 17) and it was these young men who ‘bore the main burden of the air war, who carried out the unglamourised routine duties – the artillery observation, the reconnaissance, the photography, the bombing, and the endless protective fighter patrols’ (ibid).

SECOND OR THIRD-HAND EXPERIENCE OF VISITORS TO A MUSEUM LONG AFTER THE WAR HAS ENDED?

The aeroplanes themselves are an important focus of consideration. Some of them have become museum exhibits and, although they have been cosmetically retouched, or completely rebuilt, they are no longer operational (figure 5).



Figure 5: Replica of Bristol F.2B Fighter, made from parts sourced from six aeroplanes, representative of the aeroplane flown by Captain William Harvey, 22 Squadron (© author, courtesy Trustees of the RAF Museum, Hendon).

The biplane featured, at figure 5, above, is a replica for it is constructed from the parts of six aeroplanes thus, in terms of authenticity, we might ask what is it that museum visitors are actually seeing. Many biplanes are exhibited in museums. But in controlling viewers' senses in terms of forcing their gaze, the opportunity to touch the aeroplane is denied, as is the chance to 'bridge space and time' (Classen 2012: 141). However, the viewer, the museum visitor, could mentally engage with the aeroplane, mentally probe the tactile world, imagine all sorts of scenarios and ask copious questions, which would, of course, remain unanswered. Could I fit into the cockpit? Would my legs feel cramped? What would it feel like to fly it? Would I fall out? What would I see from above? Would I feel the wind on my face? Would I feel travel sick? Would I be able to breathe? Would I be aware that the aeroplane was moving? Many of these questions can be answered by flying in an open-cockpit biplane which is why I elected to experience what it was like to fly in one as an element of my fieldwork.

Of course, we can go to Flight Display Days at, for example, Old Warden Aerodrome, Bedfordshire (figure 6) to see First World War aeroplanes fly and to hear their engines or smell the Castrol oil, but we do not get to fly them, we do not get to comprehend what it felt like to fly in an open-cockpit biplane, to feel the wind against one's face.



Figure 6: Bristol F2b D8096 fighter and reconnaissance aircraft, built in 1918 but did not see wartime service. Autumn flight display day, Old Warden Aerodrome, Old Warden, Bedfordshire, 2011 (© author).

RESEARCH OBJECTIVES AND QUESTIONS

(a) Research objectives

This thesis aims to offer an alternative anthropological-archaeological assessment of First World War aviation in terms of describing and analysing engagements with new technologies in a hitherto unexplored air-space, and the material correlates which reified these experiences. It draws upon and complements the existing well-established research of aviation history. It will do so by exploring the following research objectives to establish this research within the interdisciplinary field of modern conflict archaeology:

- To promote an ‘archive archaeology’ as a viable alternative to physical excavation and, to demonstrate its potential as an important methodology as it permits the investigation of written sources and collections of artefacts (Hicks et al 2009).
- To adopt a multi-disciplinary material culture approach to highlight nuanced alternatives and understandings of the First World War that go beyond and complement narratives of military/aviation history.
- To promote the idea of ‘sense-scapes’ as an analytical tool with which to study human sensorial experience in a ‘new’ cultural context (Howes 2005a: 143–145).

To use airmen's writings, which are essentially phenomenological in nature as they provide a first-person experiential dimension.

- To establish auto-ethnography (Pink 2009: 64) as a means of embodying and comprehending the sensory experience of being in an open-cockpit biplane.

(b) Research questions

- (1) How might the term 'First World War conflict air-scape' be defined and how might it be developed to investigate the relationships between aviators and aeroplanes?
- (2) How can an interdisciplinary approach investigate, describe, and analyse First World War aviators' haptic experiences between 1914 and 1918?
- (3) How are the physical, spiritual, and superstitious relationships between First World War aviators, aeroplanes, and the 'new' haptic world of flying reified in material culture as lucky mascots?
- (4) What are the commemorative legacies of First World War aviators and how are they reified in material culture today?

STRUCTURE OF THESIS

Chapter 2 Literature Review, Theoretical Approaches, and Methodologies

This chapter details a critical review of the existing literature to which this thesis contributes. It also provides a consideration of the theoretical approaches that inform and frame my ideas, as well as outlining the research methods undertaken.

Chapter 3 Experiencing a First World War Aviator's Haptic Air-scape (Case Study 1)

Modern conflict archaeology addresses our most recent past in conflict but has not yet focused on man's relationship with an open-cockpit biplane and the activity and experience of flying in the First World War. This chapter adopts a sense-scape approach to structure First World War aviators' descriptions of their sensory experiences while flying open-cockpit biplanes to provide a conceptualisation of a 'haptic air-scape'. It does so to materialise aviators' felt phenomenological experiences in terms of charting the beginning of the development of modern sensibilities in aviation.

Chapter 4 Matters of Fear and Anxiety: Lucky Mascots (Case Study 2)

This chapter examines how the physical, supernatural and superstitious relationships between First World War aviators, aeroplanes, and the new haptic world of flying

became reified in material culture. The material world shaped aviators' responses to the emotions of fear and anxiety they experienced on a daily basis. As a further dimension to the definition of a 'First World War conflict air-scape', Chapter 4 sees aviators' superstition manifest itself in the tangible lucky mascots, lucky sayings, omens and rituals. It categorises the different types of mascots carried by airmen in an attempt to focus on their attachment to objects within their conflict air world. It will demonstrate how categorising is important because it defines the circumstances of how such objects came into being.

Chapter 5 Emotional Biographies of Propeller Grave Markers (Case Study 3)

This chapter identifies biographical events in the social life of propeller grave markers that were placed over the graves of First World War aviators, adding an emotional dimension to the concept of a First World War conflict air-scape. Chapter 5 will reveal how the grave markers became invested with meaning in terms of becoming a focus of attention and attracting visitors. The painted or carved name of an aviator on the grave marker identifies his presence in the world and, in a sense, becomes his legacy as the propeller becomes a repository for his flying experiences.

Chapter 6 Making Sense of Matter – From *Being* to *Becoming* (Case Study 4)

This chapter presents new insights into the relationship between people and objects both during and after the First World War. It seeks to unravel how objects, in the form of First World War air-related souvenirs and trench art have become memory objects in today's world as tangible representations of past events. This chapter reifies how, as an example of wartime *matériel*, First World War aeroplanes possess value as anthropological-archaeological objects through their cultural associations and legacies. In asking what became of the pieces of crashed aeroplane, such as the wooden propellers, the linen coverings and the metal engine struts, Chapter 6 adopts a biographical approach to identify events in the social life of such pieces. It utilises substantive case studies to document and analyse the stories held within aircraft-related souvenirs and trench art.

Chapter 7 Analytical Discussion and Conclusions

Chapter 7 makes sense of the thesis by providing an analytical discussion of all the data presented in the four case studies, drawing them together in light of the literature review, theoretical considerations, and methodologies outlined in Chapter 2. This chapter further comments upon the research objectives and questions outlined in the

Introduction, at Chapter 1. It will address research implications whilst suggesting other applications for the research methodologies that frame this thesis.

LITERATURE REVIEW, THEORETICAL APPROACHES, AND METHODOLOGIES

INTRODUCTION

Given the complex and interwoven nature of this study, an interdisciplinary approach has been adopted. As a consequence, there are several distinct types of sources which have been used in an attempt to produce cross-disciplinary perspectives and understandings to address overlapping issues about materiality, sensoriality and technology in conflict. Modern conflict archaeology is a hybrid drawing on anthropology, military, social, and cultural history, cultural geography, art history, and philosophy. This approach complements and gives depth to traditional archaeological interpretation, hence the different kinds of literature from different disciplines covered in this review – these are: modern conflict archaeology, cultural history, social history, contemporary wartime publications, aviator sources, and anthropological theories of material culture and sensoriality.

It was necessary to search the war literature for glimpses and insights of everyday soldier and aviator life to which a ‘sensorial’ dimension could be accorded in order to bring together a new framework to provide much of the raw data for this thesis. I therefore had to scrupulously scour these texts to collate the raw material that could be used to tell a different story that would contribute to our knowledge of the First World War in the air.

LITERATURE REVIEW

MODERN CONFLICT ARCHAEOLOGY: SEEING THE FIRST WORLD WAR IN A NEW PERSPECTIVE

The first book to explicitly use modern conflict archaeology in its title was a volume of edited contributions from Bristol University’s Anthropology and Archaeology postgraduates (Saunders 2012). My chapter in this book, entitled ‘Signs, Signals and Senses: the soldier body in the trenches’ (Winterton 2012b: 229–241) took an anthropology and archaeology of the senses approach to modern conflict by exploring the effects of industrialised warfare on the fragile soldier body. Indeed, in writing a

subjective account of being in the First World War trenches, cultural transformations were highlighted as the:

subjective experiential soldier body [became] an object of war – to be injured, mended, and recycled in order to return to the fight. Being in the trenches was a waking nightmare. Even with eyes tight shut you could still feel, hear, and smell the war for the sense-scape of the soldier body was all-encompassing and multi-sensorial with manifestations of sensory substitution and sensory objectification (Winterton 2012b: 239).

The sensorial aspects of MCA were further explored in an edited volume (Saunders and Cornish 2017) – a study of the sensual worlds created by modern warfare and the realities of sensorial responses embodied in and caused by the materiality of conflict and its aftermath. My contribution to this publication focuses not on landscapes of war but conflict air-scapes – ‘The sensory signature of being an airman in a Second World War Lancaster bomber aeroplane’ (Winterton 2017: 237–255). As David Howes wrote in the foreword to the volume, by ‘engaging the senses in the study of war and its aftermath, [a] sensory studies approach ... created a new engagement with conflict’ (Howes 2017: xxi). An exhaustive literature search suggests that my approach to the Lancaster bomber is the only such treatment of aviation and the senses in conflict to date, and has influenced the sensorial elements of this thesis.

In his PhD thesis, *Making Sense of the Subterranean Conflict: Engaging Landscapes Beneath the Western Front, 1914–2015*, Matthew Leonard adopts a sense-scape approach to understand the subterranean conflict of the First World War (Leonard 2015). He recognises the soldiers who tunnelled underground as a ‘liminal group’ (ibid: 69), who ‘were given corporeal realisation via a unique application and understanding of the engagement of the sensorium with the dynamic underground landscapes of modern warfare’ (ibid). He relates how the soldiers in the tunnels were in such close proximity to each other in extremely confined places which ‘led to touch becoming a language in itself ... as a tap on the arm or back acted in place of speech’ (ibid: 72), thus their world was ‘understood and sustained through a very particular engagement of the senses with the environment’ (ibid: 197). My thesis studies how aviators haptically engaged with the ‘technological innovation’ (Pfaffenberger 1992) of primitive aircraft of the day and the newly experienced environment of being in the air. Leonard (2015) himself experienced being underground in First World War tunnels, making haptic engagement with the past a useful research tool. In a similar vein, in order to include an element of authentic personal experience, I flew in an open-cockpit biplane

of similar design to those of the First World War – such earthbound and air-bound experiences becoming a feature of modern conflict archaeological fieldwork (see also Leonard 2017; Winterton 2017).

In another sensorial dimension, Breithoff describes how the sensation of thirst during the Chaco War between Paraguay and Bolivia (1932–1935) ‘wove itself into the sensorial experience of war amidst thorny cacti and hissing bullets’ (Breithoff 2017: 213), such thirst and the resulting dehydration manifesting in ‘an often gruesome and manifold entanglement of people, nature and material culture’ (ibid).

The sensory perception of an object is an important area of research in MCA and such focus provides ‘a means to a deeper interpretation of [an object’s] biography’ (MacGregor 1999: 258). Although not writing about First World War aviation, Gabriel Moshenska made the connection between objects and the senses, the objects being gas masks in the Second World War (Moshenska 2010). In utilising ‘Hoskins’s models of material culture and memory, [he] argue[s] that objects with a dominant sensory impact are extremely effective mnemonics, particularly over long time periods’ (ibid: 610). Moshenska focuses on ‘the insider’s perspective as a near-complete synaesthetic environment’ (ibid) and describes a gas mask as being ‘a physical mediator between the seats of the senses and a potentially harmful atmosphere, a gas mask restricts and distorts its wearer’s perceptions and responses’ (Moshenska 2010: 610), just as an aeroplane is the physical mediator between a pilot and the environment in which he flies.

From a different but equally valuable perspective, Stichelbaut et al (2009) theorise and document the relationship between archaeology and military aerial photography and reveal how aerial photographic reconnaissance ‘transformed not just the conduct of the war, but also human perceptions of landscape in general’ (Stichelbaut et al 2009: xiii). In the chapter by Bourgeois and Stichelbaut (2009: 10), the anthropological/archaeological point is well made that aerial photography informed ground troops of their visibility from the air which then developed into an ongoing battle of camouflage between troops on the ground and aerial photographers. Saunders’ chapter (Saunders 2009a: 27–40) is an early sensorial piece published within MCA, describing how the First World War was characterised by a paradox of vision, ‘a paradox created by technology, and which recalibrated sight, taking its focus away from the middle distance, and the ultra-close ... [thus] the cultural sense of distance ... [and] scale ... was being reconfigured not by traditional social discourse and experience, but by the

devastating technologies of 20th century industrialised conflict’ (ibid: 27). Saunders describes how First World War soldiers were not familiar with the battlefield through vision alone because sight was replaced ‘at ground level [with] a universe of tactile sensory perception’ (ibid: 35) for what ‘replaced it above ground level was the aerial photograph’ (ibid).

In *Contested Objects*, Saunders and Cornish (2009) are concerned with the varied legacies of First World War objects, presenting new insights into the relationship between people and objects during and after the First World War. They reveal how the experiences of individuals can be embodied in and represented by objects whose social lives have endured for over a century. Saunders and Cornish acknowledge that objects of the First World War ‘exist (physically and metaphysically) in a seemingly infinite number of cultural and personal worlds simultaneously and so can appear as worthless trash, cherished heirloom, historical artefact, memory item or commercially valuable souvenir’ (Saunders and Cornish 2009a: 3). This thesis sits within the varied theoretical frameworks deployed by various chapters in this book. In particular, Dominiek Dendooven’s chapter focuses on souvenirs from the First World War in Belgian Flanders which are returned to the In Flanders Fields Museum at Ypres following the death of the original owner, often the person with the stories to tell (Dendooven 2009: 60–72). Dendooven highlights the importance of ensuring that the stories that relate to such objects are safeguarded for it is the story that affords the object value and significance (ibid: 66).

Judy Waugh focuses on the small personal items of First World War non-commissioned officers and other ranks which she calls ‘talisman in times of trauma’ (Waugh 2015: Loc. 4874). Waugh gathers together a corpus of items which served as talismans and tells the stories behind them, including two examples of RFC trench art, one piece in the form of a coin holder and the other, a crucifix and hearts combination, both made by air mechanics. Waugh uses the term ‘talisman’ to describe these objects but offers no definition.

First World War aviation-related lucky mascots appear not to have been studied within a MCA framework although they have been mentioned in a Second World War aviation context (Winterton 2017: 237–255), where the focus was on the ‘emotional connotations of “touching” in terms of feelings of fear and anxiety’ and the pilots’ reliance on lucky mascots as a means of coping with these (ibid: 245). That study also describes how pilots participated in rituals as a means of ‘encouraging’ good luck (ibid: 247), clearly an aviation tradition that grew out of the First World War.

CULTURAL HISTORY

Santanu Das's research has been particularly influential for my theoretical framework as he examines the importance of touch in the experience of the war and its relation to literary representation as 'the writings of the First World War are obsessed with tactile experiences' (Das 2005: 5). Das sought to reveal how the sensuous world of the trenches, as lived by the men who fought in them, provides a new means of comprehending First World War literature and art (ibid).

Paul Fussell (2000 [1975]) provides a creative way of writing about the war and the literature it generated by focusing on what the average soldier/veteran had to say about the First World War. Fussell admits to focusing on the British infantry but does provide valuable insight into the war and, on occasion, writes about the senses. For example, he describes the stench in the trenches in that 'you could smell the front line miles before you could see it' (ibid: 49). He also makes the point that trench warfare magnifies and inverts the division between night and day – 'by day, a deserted landscape; by night, frenzied activity everywhere' (ibid: 81). Significantly for this thesis, Fussell quotes the First World War pilot, Cecil Lewis's account of the appearance of the earth from above just before the attack on the Somme:

By day the roads were deserted; but as soon as dusk fell they were thick with transport, guns, ammunition trains, and troops, all moving up through Albert to take their positions in or behind the lines ... Yet when dawn came, all signs of it were gone. There was the deserted road, the tumble-down farmhouses, the serene and silent summer mornings. Never do I remember a time when night so contradicted day (Lewis 2009 [1936]: 86–87; quoted in Fussell 2000 [1975]: 81).

Some cultural historians' writing has anthropological significance. Modris Eksteins (1990), for example, writes of the 'downpours of rain that caused rifle barrels to clog with mud so that they would not fire'. He relates how, when rivers flooded, soldiers ended up knee-deep in water, and 'on occasion sank to their chests in mud and had to be hauled out with ropes' and, as a consequence, 'regimental war diaries often devoted more space in December to the war against the elements than to the battle against the human foe' (Eksteins 1990: 150). In a similar anthropological vein, Eric Leed successfully uses witness accounts of front-line soldiers to examine how this war of *matériel* altered the soldiers as they became 'liminal beings' (Leed 2009 [1979]: 23–48). His book is replete with sensorial references. He writes that 'cultural repertoires of meaning [were] drawn upon by

participants to define felt alterations in themselves' (ibid: ix) as, for example, the noise of war felt like 'an invisible bodily assault' (ibid: 124).

Joshua Levine (2008) uses the personal narratives of pilots, quoting from their published books and diaries to impart an authentic pilot's perspective on the conflict. He provides details of pilots' lives on the Western Front, and usefully engages with the aviators' fear of death (ibid: 184–185, 207, 213 and 314) together with the effect of flying on their nerves (ibid: 314). His account lacks instances of pilots' sensory experiences of flying an aeroplane, and their engagement with material culture.

In a similar vein, Peter Hart (2005) quotes from pilots and observers to narrate the story of the air war over Arras, France, in April 1917. He provides descriptions of dogfights and potentially lethal crash landings. He writes about tactics and training and of RFC squadrons in general as well as famous flying aces such as Captain Albert Ball, Mick Mannock and the German pilot, Manfred von Richthofen. Hart's book, like so many aviation-focused publications, is useful for checking historical details, and some personal reflections, but offers little in the way of deeper cultural analysis.

Hart's use of pilot narratives does, however, impart an emotional dimension by portraying pilots' 'hopes, fears and the unbearable tensions of aerial combat [that] ring out in almost every sentence' (Hart 2005: 13). While he acknowledges that many airmen 'resorted to primitive nostrums of superstition in an effort to evade their demons' (ibid: 309), he does not specifically mention lucky mascots. My research aims to show how a relationship between aviator and 'things' materialised, and how a reliance on luck and superstition as a way of coping became part of pilot life during the war. As Cornish (2012: 259) says, historians have 'traditionally failed to engage with objects as a potential research source' (ibid: 261), but by focusing on the relationship between First World War pilots and their objects, the interdisciplinary approach adopted here can afford 'historians and museums the opportunity to renegotiate the way in which their audiences view war in this "Supermodern" era' (ibid).

Mosse connects with material culture but in a limited way as he refers to a shell used as a paper weight as 'trivia' used 'for the purpose of retaining pleasant ... or thrilling memories' of the war (Mosse 1990: 126) – such an object is an example of trench art and he states that the First World War was 'confronted and absorbed ... by being trivialized through its association with objects of daily life ... or battlefield tourism' (ibid: 7).

In a catalogue (Anon. l. 2017) entitled *War in the Sunshine. The British in Italy 1917–1918*, the images contained in the Estorick Collection's exhibition⁷ provide

interesting points of view on the war in the air. Of particular interest is Jonathan Black's (2017: 18–32) chapter about the fighter pilot and Official War Artist, Sydney Carline. As a witness, Carline painted what he saw and some of the battles he fought in. His paintings were criticised by the Ministry of Information's Royal Air Force sub-Committee who deemed that his depiction of anti-aircraft bursts did not appear convincing which was ironic given that such bursts had nearly shot him down on two occasions (ibid: 27). On one occasion, Carline looks at another artist's painting and, standing before 'this sombre and darkly brooding image' (ibid: 28), 'pondered how different the air war had seemed for him in the skies above Italy, possessing so much more "sun and light and delight"' (ibid). Even war artists it seems see and experience the war differently and it is such individuality that I explore in my thesis.

The idea of randomness and chance in pilots' lives is addressed by Lucas (1987) who recounts stories of aviators who survived crashes, and MacKenzie (2017) who focuses on the superstitions of allied aircrew in the Second World War. Fussell writes about superstition, remarking '[o]ne would have to be mad, or close to it, to credit talismans, in the first quarter of the twentieth century, with the power to deflect bullets and shell fragments. And yet no front-line soldier or officer was without his amulet' (Fussell 2000 [1975]: 124). He also acknowledges that, on occasion, 'luck depended not on what one carried but on what one did, or refrained from doing' (ibid).

Chambers (2004) identifies the First World War dissemination of beliefs in the supernatural and superstition in the form of lucky mascots and rituals, from the traditional female culture to the all-male culture of the trenches (Chambers 2004: 80). She acknowledges the variety of lucky mascots and beliefs as being very apparent (ibid: 84) and that such beliefs 'helped them feel safe in times of anxiety, danger and adversity' (ibid: 98) for 'they provided succour in times of loss, death and bereavement' (ibid). Of contextual interest is MacKenzie's paper which gives a historical account of the superstitious beliefs and practices by the men of Bomber Command during the Second World War (MacKenzie 2015). Although mentioning lucky charms and talismans he does not talk about specific objects and their individual stories, nor does he theorise or reference his use of the term 'agency'. Further inspiration comes from Tim O'Brien (1991) who served as an infantryman in the Vietnam War.⁸ He tells stories about the Vietnam War through the objects that soldiers carried. Of particular note is his reference to an American soldier whose girlfriend sent him a good-luck charm in the form of a pebble she had retrieved from a beach in Jersey, USA. One day the soldier 'carried the

pebble in his mouth, turning it with his tongue, tasting the sea salt and moisture' (O'Brien 1991: 27).

SOCIAL HISTORY

Social history provides insights into the wider world of superstition and its related material culture which provide a detailed context for the beliefs and activities of pilots and soldiers. E.S. Turner (1980: 138) reveals how the war stimulated a trade in talismans, amulets and sacred emblems. He relates how one individual sent 147 parcels to prisoners of war, including a Sacred Heart badge⁹ in each parcel, in the belief that the badge would ensure its safe arrival. The fact that all parcels arrived safely fuelled such beliefs (ibid: 138–139). Faced with subsequent huge orders for these badges from soldiers' relatives, Jesuit priests warned that it was not a talisman to ward off bullets. Nevertheless, soldiers publically claimed that if one wore the badge and shouted '*O Sacred Heart of Jesus, have mercy on us!*', bullets missed them (ibid: 138). E.S. Turner (ibid: 139) also addresses the public's rush to spiritualism but it was not just the general public that were interested. Royal Flying Corps pilot Geoffrey Wall, in *Letters of an Airman*, describes attending a séance in London. Although he confessed that he did not believe in spiritualism, after the séance he related how he 'felt horribly relieved – a sort of mild, morning-after-the-night before feeling, and [his] pulse seemed to be throbbing like a pile-driver' (Wall 1919: 203).

It is perhaps the folklorist Edward Lovett who provides some of the most detailed and knowledgeable insights into amulets and lucky charms during the early twentieth century. His 1925 booklet gives examples used by First World War soldiers to ensure survival (Lovett 2014 [1925]). One such example involves a conversation he had with a friend whose reply to Lovett's questioning was 'My dear Lovett, I can assure you there is no time out there to think of such rubbish. You have been had if you have been told such rot' (ibid: 17). Lovett responded that 'he knew of many officers who were college men and who were carrying mascots in the war' (ibid). The friend was unconvinced, but, as he bade Lovett farewell, he removed a small box from his pocket that contained a small gold oriental figure – it was his mascot (ibid). Lovett's view was that 'the more superstitious people are, the less inclined they are to talk' (Lovett 2014 [1928]: 73). Sometimes, lucky mascots were secretly incorporated into a soldier's belongings by others. Lovett reports how a worried mother sewed a Carnelian pendant into the lining of her non-superstitious son's tunic. Her son returned from the war (ibid: 53).

Hill (2007) brings some analytical rigour to her study of the lucky charms amassed by Lovett and now kept in the Wellcome Historical Medical Museum, London. She addresses the 'embodied materialities of such magical objects within the everyday lives of their original owners ... However, each was believed to hold magic powers, whether inducing luck, providing protection, or warding off evil or disease' (Hill 2007: 66). Hill also considers how, when the objects were bought by the museum, there was a lack of documented evidence but argues that this absence of documentation may open up alternative possibilities for interpretation for they are not just about 'donors such as Lovett. [Interpretation] is also bound up with the lived lives of many anonymous folk, the places they inhabited and the embodied materialities of the objects they became associated with' (ibid: 77). Hill notes that some of the Wellcome's First World War mascots consisted of particular forms that related to certain superstitions, e.g. a brooch made in the image of a black cat highlighting the importance of recognising 'the specific meaning of an individual object's material construction' (ibid: 78).

CONTEMPORARY WARTIME PUBLICATIONS

Wartime journals, such as *Folklore* and *The Occult Review*,¹⁰ are a unique source of information regarding contemporary beliefs and attitudes concerning luck, superstition, and mascots, capitalising on understanding public interest at the time. Even before the war, Wright and Lovett (1908: 288), writing in *Folklore*, noted a revival in the belief in luck and protective amulets as well as lucky pocket pieces, and this clearly carried on throughout the war. Charms in the form of horseshoes, four-leaved clovers and pigs, for example, were fashionable, representing a 'half-belief' that they would bring good luck or deflect ill-luck (Sharper Knowlson 2008 [1890]: 127). To be without one's lucky charm 'would mean distress of mind' materialising in 'a real state of fear' (ibid: 127). Information about charms and how to use them was widely available at this time. George Bratley (1907) advised his readers that a charm should be used intelligently and, if seeking luck, the wearer must not just rely on the charm itself but must play his part in order to bring about the desired results:

Hold it between the finger and thumb and gaze at it steadily or if in the dark simply hold it. Concentrate your thoughts on your highest ideal, and contemplate faithfully the conditions which you desire (Bratley 1907: 146).

Bratley further observed that, in the Roman Catholic Church, a holy vest was a gift often made by the Pope to protect the wearer from violence and that the vests gave the wearer courage in the hour of danger, and no weapon had power to harm him (Bratley 1907: 61). Bratley provided information to fuel the pre-war imaginations of his reading public, which themselves contributed to the popularity of lucky charms and mascots by soldiers and aviators during the First World War.

Villiers (1929) also adds texture by explaining the meanings behind mascots in terms of lucky numbers (Villiers 1929: 120), objects believed to be traditionally lucky such as heather (ibid: 90), cats (ibid: 36–37), the saying ‘thumbs up’ (ibid: 161), and the teddy bear (ibid: 160). She writes that ‘it is foolish to declare that the belief in mascots belongs to another age, that our own has left it behind’ for ‘men may profess to scoff but in daily practice they contradict their words’ (ibid: 9) and ‘the airman carries his luck bringer in his “buss” when he attempts his greatest flights’ (ibid).

THE AVIATORS

The journal, *Cross and Cockade International*, published by the First World War Aviation Historical Society, contains articles written by First World War aviators. These provide invaluable first-hand accounts and photographs for the ‘[p]ilots wrote about their “truths”, their writings representing the “authority” of their direct experiences’ (Winter 2006: 113; cited in Winterton 2012).

Few aviators, if any, kept a record of their sensorial experiences although it is clear that their diaries and books are littered with references which can now be re-valued as evidence of their sensorial engagement with objects large and small. Their diaries and books are primary evidence. The following provides a selection of books from these sources to illustrate the nature and content of the information they contain.

Duncan Grinnell-Milne wrote about learning to fly, referring to it as ‘the puzzling business of aviation’ (Grinnell-Milne 1957 [1933]: 9). He describes how he:

had to study the air. The wind must be a certain strength, the clouds at a given height and of known density ... I must learn how to sniff the air like an old hound, a flying hound; to judge the quality of the atmosphere from the wind upon my cheek (ibid).

Grinnell-Milne describes how he became attached to his Maurice Farman Shorthorn biplane¹¹ which had to be replaced because it was ‘not “fast” enough for the demands of

an increasingly savage war' (ibid: 65), adding 'she is gone now but her memory brings back a zest of youth' (ibid).

Observer, Alan Bott (1976 [1916]) brings to life the quotidian experiences of the flying officer in France. The introduction is penned by Major-General Brancker who explains that Bott wrote about 'heroic deeds with such moderation and absence of exaggeration' (Brancker 1976 [1916]). Bott was very much aware of the relationships that were formed between aircrew and their aeroplanes. For example he observes that 'each man treated his bus¹² as if it were an only child' (Bott 1976 [1916]: 11–12) because '[i]f another pilot were detailed to fly it the owner would watch the performance jealously, and lurid indeed was the subsequent talk if an outsider choked the carburettor, taxied the bus on the switch, or otherwise did something likely to reduce the efficiency of engine or aeroplane' (ibid).

Sound was especially important to First World War pilots. Apart from the distinctive noise of different aero engines, singing was popular binding men together in their respective squadron messes, often with dark humour, as in these verses from *The Dying Aviator*:

A handsome young airman lay dying,

(CHORUS): *lay dying,*

And as on the aer'drome he lay,

he lay,

To the mechanics who round him came sighing,

came sighing,

These last dying words he did say,

he did say:

"Take the cylinder out of my kidneys",

"of his kidneys",

"The connecting rod out of my brain",

"of his brain",

"The cam box from under my backbone",

"his backbone",

“And assemble the engine again”,

“again”.

“When the court of enquiry assembles”,

“assembles”,

“Please tell them the reason I died”

“he died”

“Was because I forgot twice iota”

“twice iota”,

“Was the minimum angle of glide”

“of glide” (Nettleingham 1917: 76).

Arthur Gould Lee (1969) writes of his experiences whilst flying in a fighter squadron for 8 months in 1917. He describes feeling cold whilst flying on patrol at a height of 18,000 feet¹³ ‘trying to get a view downwards, I stuck my head over the fairing of the cockpit, and the blast of the ice-cold air took my breath away’ (Gould Lee 1969: 68). He compares this to flying at 3,000 feet¹⁴ where ‘it is warm and I [begin] to recover but the blood rushing though my half-frozen fingers gave me a stinging bout of pins and needles’ (ibid). Gould Lee describes how he felt scared with Germans firing at him and bullets ‘cracking round [his] head’ (ibid: 72) as he quickly dived to evade them, dropping two and a half miles in 45 seconds (ibid: 74).

Keeping diaries was forbidden thus, as ‘objects’, they too were contested. Wartime publications were heavily anonymised, for example Aimée McHardy’s book (2007 [1918]), written using letters received from her husband, fighter pilot William Bond, whilst serving in France during 1917, was subject to heavy censorship and the names of Bond’s fellow airmen and locations were redacted. Another example is the book written by Alan Bott (1976 [1916]) which was originally published under the pseudonym of ‘Contact’ and even his squadron was disguised by the name ‘Umpty’ Squadron, such were the publishing restrictions of the time.

Aviators kept diaries but for different reasons. Lieutenant Colonel L.A. Strange, for example, hoped, ‘[i]f these recollections help only to show the futility of war amongst nations my purpose is served’ (Strange 1955 [1933]: foreword). An anonymous American aviator visualised a future after the war, ‘someday it will be my greatest pleasure to read

it over ... I'll read parts of it to my grandchildren and tell them all about the war' (White Springs 1966 [1927]: 37–38). He gave his diary to a fellow officer asking him to publish it in the event of his death – he was shot down behind enemy lines during the closing months of the war and buried by the Germans.¹⁵

Interestingly, while few diaries were published many were donated to museum archives along with private documents such as letters, e.g. Lieutenant Norman Birks (1914–1918) and Lieutenant Anthony Arkell (1918). Lieutenant Lidsey's diary was given to the Imperial War Museum by his brother who included the following addendum:

This is a copy of the diary kept by my brother William John (Jack) – written daily – almost – in pencil in 4 cheap pocket notebooks, and records the daily events during his service in the 1914–1918 war until the date of his death from wounds received the previous day in March 1917 ... I think it is valuable for future generations in showing the truly appalling physical conditions which were endured by ordinary human beings for months and years on end without a breakdown of morale (Lidsey 1916–1917).

It was not only well-educated officers who kept diaries. James McCudden VC was a leading British fighter pilot of the First World War whose personal account was completed just days before his death in July 1918, aged 23. His book was published posthumously (McCudden 1987 [1918]). He had left school at 14 years of age, rising from mechanic to pilot to flight commander.

MATTERS OF AIR

Steven Connor explores the ways in which the scientific understanding of the air 'has both given rise to new kinds of object and made of the air itself a new kind of object ... a new way of being an object' (2010: 14). In his collection of essays about the cultural history of air, Connor raises some important questions:

how does one study a substance that is everywhere? Normally, an object of study is something that is, following the etymology of the word, "thrown before", or set out in front of the investigator. To study an object one must pick it out from its surroundings, and concentrate it in one place. How was one to make of the air such an object? ... How was the air to be brought before one, when it was of necessity at all times all about? (Connor 2010: 16).

Connor informs how the domestication of air is the product of scientific invention, for example, fireworks being domesticated in the UK to mark Guy Fawke's night (ibid: 291), and the invention of high explosives following the discovery of nitroglycerine in 1847

whose power comes from detonation (ibid: 300). He explores a variety of artefacts from examples of contemporary art to the scientific observation of atmospheric phenomena through a series of encounters with air from the late sixteenth century onwards starting with ‘the process of experimental investigation into the mechanics of air ... along with the pneumatic chemistry that ... may be said to begin with Van Helmont’s coining of the word “gas” in the early seventeenth century’ (ibid: 14). Connor concerns himself with ‘the ways in which new understanding of the air entered social experience and altered human experiences of their ways of inhabiting the world’ (ibid). He also writes of laughing gas parties in the 1820s (ibid: 109; cited in Smith 1982: 34–40), a substance that ‘altered the tone of the mind’ (Connor 2010: 109); as well as developments in military technology, such as poison gas and aerial bombardment that ‘made more and more for “an air that kills”’ (ibid: 38). In terms of the human senses, Connor’s work focuses mainly on vision and its relation to air, though he does briefly address the other senses, such as the visual and audible effects of fermentation – foaming, the formation of bubbles, and the sound of hissing (ibid: 319).

My research draws on but seeks to go beyond Connor’s research because it deals with humans taking to the air voluntarily and in powered flight for the first time. Industrialised war made this possible and so before 1914 Connor’s question is philosophical, but afterwards air presents itself to direct human experiences via the technology of flying. The research underpinning this thesis introduces haptics as an interpretive framework to discover what it felt like to fly in a contested air-scape in an open-cockpit biplane.

The development of powered flight provided an important means of occupying or moving through the air, particularly in the extremes of aerial combat. Indeed, Connor cites Siegfried Sassoon, the war poet who experienced the First World War at first hand, and who observed that ‘the war had become undisguisedly mechanical and inhuman’ (Sassoon 1930: 147; cited in Connor 2010: 246). To offer new analytical understandings of air, this thesis explores how air as a cultural medium was first defined and then refined by First World War aviators’ experiences of flying over the Western Front, and how it became part of their haptic experiences.

Studies of air have primarily been a means of researching our relationship with the environment. For example, under the auspices of cultural history, Peter Sloterdijk regards the First World War as an environmental conflict where the atmosphere became a theatre of war, where the air was reconfigured as a weapon. On 22 April 1915, the

German army first used chlorine gas at Ypres, in Belgium, and the air became an instrument of atmo-terrorism (Sloterdijk 2009 [2002]: 9–46), forcing soldiers to breathe in toxic ‘weaponised’ air that would seriously injure or kill them. Fresh air could no longer be taken for granted.

In re-thinking the human body’s relationship with technology, Bruno Latour (2006: 105) argues that nobody knew that air was part of the body’s sensorial spheres until the Germans released these deadly gases into the air in 1915. However, air alone is insufficient – it requires movement for Sloterdijk’s argument to work – so the German use of gas required wind, and blowing from the right direction. While it is true, as Sloterdijk (2009 [2002]: 16) says, that chemical warfare attacks a human’s ecologically-dependent vital functions such as respiration, central nervous system and temperature, it is also true that First World war aviators also reconfigured ‘air’ as a medium to attack and kill. Pilots similarly had to deal with vital functions of breathing, temperature, and central nervous system episodes of, for example, disorientation and blackouts.

Sloterdijk’s insights are significant, but serve also as a jumping-off point for further elaboration, critique, and analysis in light of pilots’ Great War experiences. Sloterdijk’s (2009 [2002]: 16) assertion that chemical warfare supersedes traditional/naïve exchange of blows between enemies is surely only partly true as demonstrated by my conceptualisation of ‘conflict air-scape’, where pilots not only have to deal with the sensory assault, but the aim is not to make the exchange of blows redundant, but to more effectively deliver them through aerial combat, strafing, and bombing.

A similar critical comment can be leveled at Sloterdijk’s (2009 [2002]: 19–20) description of gas masks/respirators as a quickly-created/refined counter-measure to gas, yet fails to mention the visual and breathing problems associated with wearing them, and thus successfully navigating the physical landscapes of combat terrain. It is also the case, unacknowledged by Sloterdijk, that pilots too wore helmets, goggles, and when flying high, employed oxygen masks. This fact has less to do with atmo-terrorism than in adding physical substance to the concept of ‘conflict air-scape’. It can be argued that while chemical warfare is a vital development in the weaponisation of ‘air’, as Sloterdijk (*ibid*: 9–46) says, he overplays his hand, and really it is only part of this process (albeit extreme and illegal and morally repugnant) which really began with the invention/use of aircraft. After all, aircraft attacks of all kinds have killed more people (soldiers and civilians) in the First World War and subsequent twentieth century conflicts

than gas attacks – a historical reality which emphasises the significance of the concept of ‘conflict air-scape’. Aircraft can fly/attack/kill in many wind conditions, whereas gas attacks need a very particular set of wind conditions if users are not to kill their own side.

The cultural significance is also acknowledged by Bettina Hauge. Regarding air as a tangible object, she notes how we become knowledgeable about our environment through air (2013: 171), for ‘the perception and reception of the world rely on the senses’ (ibid: 180), whether pleasant, or unpleasant, or perhaps dangerous smells in the air. Although she is concerned with experiencing air on the ground, she does not write about how technology affects the senses. In this thesis, for example, First World War aviators’ experience of the third dimension included sound and wind, defining factors in learning how to survive in a conflict air-scape.

How would the environmental medium of air translate for a First World War aviator? Air is a gas. James Gibson describes the terrestrial environment as consisting of a tripartite system of ‘*medium, substances, and the surfaces that separate them*’ (1986 [1979]: 16) and Ingold (2007a) adopts this too. The formless gases of the air constitute a layer of atmosphere above the earth and water, and this medium affords breathing and movement, as well as being filled with illumination, facilitating vision’s ability to comprehend an axis of reference in terms of up and down (Gibson 1986 [1979]: 16–19). Gibson refers to weather as an ‘atmospheric medium’ (ibid: 19) which might include rain, fog, snow, or wind which demands ‘various kinds of adaptation and ... behavioural adjustments, such as hibernation, migration, shelter-building, and clothes wearing’ (ibid: 19). The medium enables ‘unimpeded locomotion from place to place, as well as the seeing, smelling and hearing of the substances at all places. Locomotion and behaviour are continually controlled by the activities of seeing, smelling, and hearing, together with touching’ (ibid: 32).

Ingold (2007a) considers how to approach the fluxes of wind and weather. He asks what it means to live in the open and writes ‘to inhabit the open is not to be stranded on the outer surface of the earth but to be caught up in the transformations of the weather world’ (2007a: 19). In this weather world he imagines that there are no objects (ibid: 28). He asks how is it possible to feel the wind without being able to touch it? He answers ‘feeling and touch are not merely alternative terms for tactile sensation’ (Ingold 2005: 97). He makes an important contribution to understanding the relation between visual perception and the weather arguing that ‘weather enters visual awareness not as a scenic panorama but as an experience of light’ (ibid). There is an

apparent lack of people and technology in Ingold's weather world which this thesis seeks to critique. Weather is critical to flying, and First World War pilots did not fly in adverse weather conditions if they could help it – their diaries commonly referring to 'dud days' when bad weather precluded flying. This thesis regards the wind/weather as a thing to be experienced in terms of its effects on pilots' feeling bodies, and on their aeroplanes, and so challenges Ingold's ideas in regard to defining the concept of a haptic air-scape.

My research, as with Ingold's (ibid: 97), indicates that human experience of weather is multi-sensory but whereas Ingold's view appears solely philosophical, the view offered by my research regards people and objects as part of the argument, a point which contributes to the creation of a sensorial experience for wartime aviators. The First World War invented and configured the third dimension as air-scape, a scape that is real and experienced rather than imaginary or philosophical.

THEORETICAL APPROACHES

MATERIAL CULTURE AND MATERIALITIES

In the inaugural editorial for the *Journal of Material Culture*, Miller and Tilley define the study of material culture as:

... the investigation of the relationship between people and things irrespective of time and space. The perspective adopted may be global or local, concerned with the past or the present, or the mediation between the two ... [T]he potential range of contemporary disciplines involved in some way or other in studying material culture is effectively as wide as the human and cultural science themselves (Miller and Tilley 1996: 5).

Given the complexity and interdisciplinary nature of the research presented here, I have employed a variety of theoretical approaches – experiential, sensorial, agentive and biographic – from the hybrid of material culture studies which for many represents 'a prototype for post-disciplinarity' (Hicks and Beaudry 2010a: 2).¹⁶ In adopting a material culture approach, I move beyond the processual paradigms that analysed the form, materials and method of manufacture of an object and cast aside Cartesian dualisms of object and person. Material culture studies 'centres on the idea that materiality is an integral dimension of culture, and that there are dimensions of social existence that cannot be fully understood without it' (Tilley et al 2006: 1). This position, I argue, offers a powerful and fruitful way of investigating aviators' haptic air-scapes, use of lucky mascots, individuality in creating, or getting somebody else to create, trench art, which became repositories for human experience and memory objects.

Modern conflict archaeology, as already described, is a holistic, self-reflexive, and emotional anthropological archaeology developed to investigate conflicts of the twentieth and twenty-first centuries. As these physical remains become modern heritage, MCA as a hybrid of anthropology and archaeology, allows us to focus on the reification of relationships between individuals, culture, and the material worlds of wartime experience and post-war memory (Hodder 1982a, 1982b; Miller 1983, 2002 [1994]; Rathje 1981: 51–52; Saunders 2003a). All objects have archaeological and anthropological significance within the intellectual framework of the material culture paradigm, and Hodder's (1982b) 'contextual' archaeology, informed primarily by Bourdieu's (1977) concept of *habitus* which recognises that objects enable people to learn how to act appropriately within society. It is through the process of objectification that we can understand the relationship between pilots and their aeroplanes for 'objects circulate through people's activities and can contextually produce new types of activities, objects and events' (Tilley 2006: 60; see also Miller 2010: 54–68). Miller proposed that the significance of an object in social life could be developed through a social anthropology that focused on the 'social structuralism of the material world' (Miller 1987: viii). Evidently influenced by Bourdieu (1977, 2010 [1984]), Miller's theory of objectification was developed from the stance that 'the human subject cannot be considered outside the material world within which and through it is constructed' (Miller 1987: 86). Miller considered the 'social implications of things' (ibid: 85) as a means of establishing what things are and what things do in the social world, hence, here, by providing a means of understanding the relationship between aviation-related mascots, trench art, souvenirs, and the First World War. As Miller (2010: 54) says, 'objects make us, as part of the very same process by which we make them' and 'ultimately there is no separation of subjects and objects' (ibid: 60). The potential of such an approach for my research is clear.

Ingold makes an important contribution to the anthropological debate on materiality and, in seeking to reverse the importance in current studies of material culture 'on the materiality of objects as against the properties of material' (2007: 1) introduces his idea of the mole's view of the universe in which, he says, the idea of material culture is a contradiction in terms because in a mole's world:

the form of things are hollowed out from within rather than impressed from without [so] in their eyes ... all that is material would reside beyond the things of culture, on the far side of their inward-facing surfaces. Thus

these things could be present in material culture only as material absence – not as concrete objects but as externally bounded volumes of empty space. The very idea of material culture would then be a contradiction in terms (2007: 6).

Ingold (2007) argues that a gap exists between theories about the materiality of objects and theories of the properties of materials and asserts that materiality has become immaterial. Whilst insightful, this fails to consider subject-object relations in terms of the social value, meaning and significance of an object for ‘the concept of materiality is all about going beyond the [object] itself and situating it in relation to other [objects], landscapes, persons and their doings – in other words developing a holistic conceptual interpretative framework’ (Tilley 2007: 18).

With reference to the materiality debate, Dan Hicks argues that:

unlike the range of ethnographic fieldwork that has been carried out by those working in material culture studies, Ingold’s arguments have been developed theoretically, in isolation from fieldwork. In doing so, they produce precisely the tendency to seek to explain the world by holding it at sufficient distance, despite the pressing logic of his arguments to move away from such approaches (2010: 80–81).

My research seeks to go beyond Ingold’s work by focusing on the relationship between First World War airmen and their aeroplanes in terms of their experiences and memories as, for example, they created objects from pieces of their crashed aeroplane.

Critical to the discussion and analysis of the relationships between aviators and their aeroplanes is Bruno Latour’s *We Have Never Been Modern*. Modernity was meant to have invented ‘the Great Divide’ (Latour 1993: Loc. 849) between the material and the cultural, nature and culture, subject and object, or people and things. This allowed us to assume ourselves to be modern rather than pre-modern or ancient when such a divide had been non-existent (ibid: Loc. 270). Latour shatters the illusion of modernity for there was no apparent transformation of the material world. He suggests the world was never so dualistically divided and that we should adopt a compromise middle ground where the natural and the social are seen as hybrids in a world where humans and non-humans have become entangled (1993: Loc. 565).

As already mentioned, the concept of *habitus* is an important consideration in revealing the relationship between an aviator and his aircraft, not least because pilots had to learn to fly different models of aircraft, each of which had its own characteristics.

An expert flyer of the Sopwith Camel was not immediately proficient in a Bristol Fighter. Soldiers' experiences in the First World War made Marcel Mauss aware that the human body had to be trained (habituated) in the use of a variety of technologies (however simple), and that this only came through experience. Mauss gives the example of the apparently simple use of a spade to dig trenches and dugouts. The English troops he accompanied did not know how to dig with a French spade and, on occasions when a French division was relieved by an English one, or vice versa, 8,000 spades had to be changed, illustrating that 'a manual knack can be learnt only slowly. Every technique properly so called has its own form' (Mauss 1979 [1935]: 99). Thus, 'in every society, everyone knows and has to know and learn what he has to do in all conditions' (ibid: 120). Hence, people learn to live in their world as they negotiate their landscapes.

Mauss's term for such a learnt technique is *habitus* and this was later developed by Bourdieu (1977) who studied the ways in which we understand our world and have our own ideas, how we learn specific sets of skills and habits that accord to our status in terms of, for example, age, sex, and class. *Habitus*, therefore, provides 'a past which survives in the present and tends to perpetuate itself in the future by making itself present in practices structured according to its principles' (Bourdieu 1977: 82). Bourdieu's objectification of *habitus* positions humans within a material culture context where meanings are inscribed on the physical body and the role of individual choice or agency and social structure either restricts or enables both individual and collective actions. One could accuse Bourdieu of focusing 'too tightly on the way in which the socially structured environment affects our going on in the world' (Bender 2006: 305). We may find ourselves positioned in worlds not of our own making, or choosing, such as First World War aviators. Bourdieu's theory fails to acknowledge the possibilities of 'multiple or conflicting habituses' (Chadwick 2004a: 13). On the positive side, the concept of *habitus* fruitfully explains the reproduction of social relations and the continuing traditions through the meaningful actions of individuals.

Bourdieu (1979) explores the lived domestic environment of an Algerian Kabyle House in *The World Reversed*, introducing *habitus* concepts in terms of a series of binary oppositions that structured the occupants' lives. In particular, he observes how the hearth is the site of a number of rites and that 'the fireplace and the stones surrounding it derive their magical power, whether to give protection from the evil eye or illness or to bring fine weather, from the fact that they belong to the order of fire, the dry, and the heat of the sun'. For example, rites used to effect a change in the weather utilise

opposing parts of the house differentiating between the wet or dry part of the house. To change the weather from wet to dry, a wool-packing comb made from fire along with a glowing ember are left on the threshold overnight (1979: 144). The direction that the house faced was of importance too with the front door of the main house in which the head of the family resided having an east orientation. Similarly, individuals performed actions in accordance with cardinal orientation in order to achieve a particular favourable outcome (ibid) just as First World War pilots developed ways of behaving in an attempt to survive the war.

Since human experience is directly invested in material culture, MCA is a personal and experiential archaeology that 'excavates people's lives' (Saunders 2007: 2). In one sense, this thesis aims to provide a new and nuanced focus on modern conflict by offering another way of narrating the story in terms of focusing on the significant and non-obvious. In other words, there is more to the RFC and its aviators than the many aeroplanes exhibited in aviation museums alongside interpretation boards giving a host of technical details. How, we might ask instead, is a pilot's experience of flying in conflict conditions and his relationship with his aeroplane reified in material culture today?

(a) Trench art

My research has been informed and focused by recent work on trench art – arguably one of the most definitive kinds of conflict-related material culture. Trench art is:

any item made by soldiers, prisoners of war and civilians, from war matériel directly, or any other material, as long as it and they are associated temporally and/or spatially with armed conflict or its consequences (Saunders 2003a: 11).

Saunders categorises First World War trench art (Saunders 2003a: 38–51) and some of the categories are applied to the trench art examples discussed in this thesis for 'it is the category to which they belong that defines their nature' (Saunders 2009: 38). Since I seek to analyse the significance of the wood, linen and metal retrieved from crashed aeroplanes, the following sub-categories were utilised to provide a framework to my research: sub-category 1(a): soldiers – active service, 1914–1918 (Saunders 2003a: 40–41); and sub-category 3: commercial production, c.1918–c.1939 (ibid: 49–50).

Gulya Isyanova's (2009: 130–143) focuses on the consumption of First World War trench art by a small group of Parisian collectors. Isyanova observes that, whilst trench art has been academically categorised (see Saunders 2003a: 38–51), the Parisian

collectors 'apply a prescriptive typology to the kinds of objects they recognise as "true" trench art, i.e. objects made by soldiers during conflict' (Isyanova 2009: 142). This raises the issue of authentic experiences of war as it appears that the Parisian collectors view trench art to be authentic only if it was made by soldiers during 1914–1918, and not by civilians, such as the bereaved, battlefield pilgrims, internees, and refugees, who also experienced the consequences of warfare (ibid: 142). This important observation informed my approach as matters of authenticity also came to light during my research, both objectively and subjectively. Many pieces of trench art were made by civilians as souvenirs to be sold to pilgrim tourists visiting the Western Front after the war, yet anthropological studies of indigenous tourist arts or souvenirs have speculated how such objects acquire value and meaning. There has been a tendency to dismiss them as 'inauthentic' for '[a] particularly dense aura of inauthenticity surrounds objects produced for the souvenir and tourist trades because they are most obviously located at the intersection of the discourses of art, artefact, and commodity' (Phillips and Steiner 1999: 4). Indeed,

... if tourists want masks and sculptures, then they shall have them, as many as they wish! But what is produced is of most questionable value: works without any cultural roots or artistic content (Leuzinger 1960: 209; cited in Steiner 1994: 105).

The notion of authenticity is clearly an important anthropological area of debate, yet war souvenirs, associated with death, wounding, or loss appear to require a different, or at least modified, approach to their analysis. What could the significance of souvenir First World War aviator trench art be?

Saunders invites us to consider trench art's 'capacity to link the temporal changes from war to peace in shapes and forms which appear the same but whose "social lives" and "cultural biographies" tell a diversity of stories' (Saunders 2003a: 3). This approach is adopted as a powerful analytical tool throughout this thesis to investigate the relationship between aviators and the war *matériel* used to fabricate trench art not least because such '[o]bjects hold within themselves the worlds of their creators' (ibid: 4).

The post-war biographies of trench art and/or souvenirs and the way they affected the lives of those living during the interwar years has been conceptualised by Saunders in terms of '[o]bjects, ideas and attitudes link[ing] the two World Wars during a period of dramatic social, economic and cultural change [and] forming a bridge composed of materiality emotion and memory' (Saunders 2001: 477–478).

Some aeroplanes from the First World War have ended up as exhibits in a museum but, by applying a biographical approach, these can be considered as objects of multiple meanings as they move across space and time. With this in mind, my research is influenced by the idea of objects having biographies. Arjun Appadurai (1986a: 3) introduced the idea that objects (he writes in terms of commodities and we can legitimately substitute other words such as aeroplane, trench art, souvenir, etc.) have a story to tell because, like people, things have a 'social life', for:

their meanings are inscribed in their forms, their uses, their trajectories ... [and] even though from a theoretical point of view human actors encode things with a significance, from a methodological point of view it is the things-in-motion that illuminate their human and social context (ibid 1986a: 5).

Appadurai (ibid) draws our attention to the ways in which objects are successfully moved about and recontextualised and, in my analysis, I adopt this idea to trace how pieces of broken aeroplane are scavenged, recycled and reused. Since things cannot be fully comprehended at just one point in their lives and because they change throughout their existence, a 'biographical' approach to material culture studies further enables us to 'ask questions similar to those one asks about people' (Kopytoff 1986: 66–67), the 'cultural biography' (ibid) of an object making 'salient what might otherwise remain obscure ... [as things] are culturally redefined and put to use' (ibid). Kopytoff's (1986) work has therefore influenced my treatment of trench art/souvenirs as I trace the events in the lives of pieces of aeroplane that have crashed that subsequently became part of people's lives in the past, are part of their lives in the present and might become part of their lives in the future.

Hoskins also considers biographies but she defines a new category of 'biographical objects' (Hoskins 1998: 7) which 'occupy one pole of the continuum between gifts and commodities and are endowed with the personal characteristics of their owners' (ibid). Such an approach might retrieve the stories connected to the material culture associated with aviators, whether trench art or souvenirs.

Recognising that remembering is a cultural process, Hallam and Hockey (2001) ask 'how do the living maintain ongoing relationships with the dead in Western societies?' This question is relevant to my research as I track the lives of propeller grave markers, as well as aviator-related trench art and souvenirs displayed in bereaved relatives' homes where some became important in the process of mourning and memorialising.

(b) Materialisation of superstition

Pilots experienced the emotions of fear and anxiety. Emotions are cultural (Tarlow 2000: 728) and provide a way of enriching archaeological and anthropological interpretation. Since 'the issue of materiality remains foundational to most people's stance to the world' (Miller 2005a: 2), emotions can be reified as a significant materiality of human experience. For First World War pilots, the 'materialisation' or reification of superstitions takes the form of rituals, omens and objects (DeMarrais et al 1996). Whilst 'materiality is an integral dimension of culture' (Tilley et al 2006: 1), 'there are dimensions of social existence that cannot be fully understood without it' (ibid) and pilot's superstition is one such example. Agreeing with Paterson (2007), I argue that there are two types of touch: the senses of touch as 'sensation', and touch in a metaphorical sense, i.e. as a 'touching experience', the latter incorporating emotions (Wyschogrod 1981, cited in Paterson 2007: Loc. 386). Certainly, this view of touch becomes a useful theoretical tool when applied to the more holistic, self-reflexive, and emotional archaeologies.

My focus upon lucky mascots requires consideration of theory on magic and superstition. Superstition is the 'encroachment of faith on the rights of reason and knowledge' (Armstrong-Jones 1929: 135). In 1929 it was recognised that:

Ordinarily, we reject supernatural stories because they do not fit in with the conclusions we ourselves have experienced, or the theories we have formed, yet fear, terror, or other emotions may compel us to believe in what we cannot prove or disprove to the satisfaction of our senses. Most of us are unconscious of the narrow range of our own experience and so involuntarily come to believe in superstition. Psychologically, this question is based on the instinct of fear (ibid: 135–136).

James Frazer, writing before the commencement of the First World War, explains how magic:¹⁷

is necessarily false and barren; for were it ever to become true and fruitful, it would no longer be magic but science. From the earliest times man has been engaged in a search for general rules whereby to turn the order of natural phenomena to his advantage, and in the long search he has scraped together a great hoard of such maxims, some of them golden and some of them mere dross. The true of the golden rules constitute the body of applied science which we call the arts; the false are the magic' (Frazer 1994 [1911]: 46).

The 'function of magic is to ritualise man's optimism, to enhance his faith in the victory of hope over fear. Magic expresses the greater value for man of confidence over doubt, of steadfastness over vacillation, of optimism over pessimism' (Malinowski 1925: 83). Hill,

writing about Lovett's collection of amulets and charms from the early twentieth century recognises the magical qualities of such objects, for they might still possess the ability to enchant (Hill 2007: 65). Peter Pels (2010) observes that nineteenth century magic utilised folk theories current in modern life.

Whilst in Western empirical scientific thought it is not possible for objects to be magical by themselves, Alfred Gell, in *Art and Agency*, promotes the idea of the agency of things where '*persons* or "social agents" are, in certain contexts, substituted for by *art objects*' (Gell 1998: 5). For Gell an agent was one who 'causes events to happen' (ibid) and 'whenever an event is believed to happen because of an intention lodged in the person or thing which initiates the causal sequence, that is an instance of agency' (ibid: 16). This idea is especially useful in my analysis of the agency of magic and folklore in lucky mascots because it is less what an art object represents than what it does within the social world of the aviators that has significance.

(c) Sensory anthropology and archaeology

To understand what we mean by 'the senses', it is useful to look at the history of their study for it is clear that philosophers of science have evidently speculated on the matter of how we perceive our world since long before the advent of formal scientific disciplines. The number and orders of the senses are fixed by custom and tradition (Vinge 1975: 7). Indeed, Aristotle is famous for his hierarchy of five *separate* senses (1986 [350BC]: 168–186) – (1) sight, (2) hearing, (3) smell, (4) taste, and (5) touch – where sight is privileged and touch is relegated to the lowest, basest position as belonging to animals. In reality it is not known how many senses we have but Rivlin and Gravelle indicate that we may have more than five sensory systems (Rivlin and Gravelle 1984: 9–28). Recognition of the five separate senses remains evident today although a more realistic framework for interpreting sensory experience is surely to recognise that all sensory experience is *multi-sensorial* (Howes 1991b). However, we may still focus on single sensory modalities in pursuit of the non-obvious to bring forth 'an absent presence' (Buchli and Lucas 2001a: 3–18), although no one sense could ever tell the whole story and, in addition, we should never forget the strength of memory, for it is 'the horizon of sensory experience' (Seremetakis 1994a: 9; cited in Winterton 2017: 248). Indeed, 'memory as a distinct meta-sense transports, bridges and crosses all other senses' (ibid) as for example old wartime injuries may act as a visual reminder of a time and place, the

smell of oil may act as an olfactory reminder, or the sound of an engine, an auditory reminder.

In the mid-1990s the possibility of a 'sensory archaeology' emerged as prehistorians (e.g. Tilley 1994; Thomas 1996) adopted and adapted the existentialist phenomenology of Heidegger (2005 [1962]) and Merleau-Ponty (2002 [1958]). The concept of *being-in-the-world* in terms of how we perceive the material world through human experience was applied to the landscape and the monuments within it. Whilst Tilley (1994) alerted us to the possibilities of using phenomenology in new ways in order to materialise human experience, he was not without critics (Brück 1998, 2005; Fleming 2006). In particular, Tilley's (1994) phenomenology is totally vision driven and does not take into account the fact that everyday experience is multi-sensorial and that one or more senses may be dominant at any one time or in any culture (Howes 1991a; Winterton 2012b).

Interest in the experiential nature of material culture encouraged archaeologists to focus on the embodied character of past materialities (Meskell 1996). Later research (e.g. Houston and Taube 2000; Hamilakis et al 2002; Tarlow 2000) prepared the way for a sensory archaeology, and anthropologist David Howes later acknowledged how the sensory dimension of objects had become an important topic within material culture theory and represented a 'sensual turn' (Howes 2006: 161). This sensitivity to sensorial issues is evident in Saunders' reference to the heightened experience of warfare and the ability of trench art to 'act as a bridge between mental and physical worlds' (Saunders 2002: 181).

It is claimed that vision has been prioritised over other senses in the Western world (Howes 1991a: 3–5). The work of, for example, Walter Ong (1967, 1982) and Marshall McLuhan (1962) demonstrates how the rise of the printing press and the use of technology to expand or reproduce the visual field, by means of, for example, the camera, television, or telescope contributed to the dominance of vision in modern Western culture. Constance Classen wrote '[in] many contemporary academic works sight is so endlessly analyzed, and the other senses so consistently ignored, that the five senses would seem to consist of the colonial/patriarchal gaze, the scientific gaze, the erotic gaze, the capitalist gaze and the subversive glance' (1998: 143). David Howes promotes an 'anthropology of the senses' to show how 'the patterning of sense experience varies from one culture to the next in accordance with the meaning and emphasis attached to each of the modalities of perception' (Howes 1991a: 3). Evidently,

in certain cultures, other senses are more dominant, for example the *Anlo-Ewe* speaking people in south-eastern Ghana regard balance as ‘an essential part of what it means to be human’ (Geurts 2002: 49–50). Paul Stoller (1984) had his ears ‘opened’ to the significance of sound among the Songay of Niger. In an attempt to redress the Western predominance of vision, single modality studies have begun to appear, e.g. on taste (Korsmeyer 2005), smell (Classen et al 1994; Drobnick 2006), and auditory culture (Bull and Back 2003; Rice 2010, 2013; Witmore 2006). Ingold chided Howes arguing that his approach ‘reduces the body to a locus of objectified and enumerable senses’ (Ingold 2000: 284) although it is clear that Ingold’s (2000) deliberations on sight, sound and motion, gave scant regard to smell and taste, thus ‘phenomenologically reducing’ the lived-in world (Howes 2006: 170, fn6). Nevertheless, by focusing on single modalities, we are merely investigating previously overlooked aspects of human experience to allow for a more nuanced interpretation (see Day 2013a).

Denis Cosgrove, extended the treatment of the idea of landscape beyond what appeared to him ‘a prevailing narrow focus on design and taste’ (1998 [1994]: xiii). He introduced landscape not only as ‘a way of seeing’ (ibid: xiv) but as a means of representing a ‘historically specific way of experiencing the world, developed by and meaningful to, certain social groups’ (ibid 15). However, Cosgrove was later to admit (in his 1998 reprint of the book) that his 1984 edition ‘never seriously grapples with the ... emotional qualities of landscapes’ (ibid: xx) and it certainly does not consider social agency or simply being human and, therefore, does not allow our ancestors, ordinary men and women, to tell us about their everyday lives.

The term ‘air-scape’ is introduced as a tool of materialities with which to study sensation and when the neologism ‘scape’ is annexed to ‘air’, it is used to represent a subjective, and, therefore, phenomenological, means of perceiving the world – ‘scape’ is experience. My conceptualisation of a ‘First World War conflict air-scape’ acknowledges the work of Yi-fu Tuan (1974, 1979) and Feld and Basso (1996) on the sensual reaction of people to place – i.e. a focus on ‘sense-scapes’ rather than the conventional notion of landscape with its primarily visual connotations (Cosgrove 1998 [1984]). Since landscapes are cultural processes (Hirsch 1995: 23), they may be interpreted through human experience, and as Bender observed, ‘landscapes are not just “views” but intimate encounters. They are not just about seeing, but about experiencing with all the senses’ (Bender 2002: 136). In light of this, there are also ‘soundscapes’ (Gell 1995) and ‘seascapes’ (Van de Noort 2004). Within MCA, this inspired the adoption of a ‘sense-

scape' approach to conflicted 'scapes' (Leonard 2017; Winterton 2012b, 2017) or, as in this thesis, a First World War conflict air-scape. The term 'sense-scape' is increasingly used as a tool with which to study human sensation in a cultural context (Howes 2005a: 143–145) although Ingold (2011: 136) states that 'scapes' have outlived their usefulness. Experience of such sense-scapes provides the impetus for a 'sensory reception of history' (Seremetakis 1994a: 4) as aviators' experiences and feelings are remembered (see also Connerton 1989) and even forgotten (Forty and Küchler 1999; Nora 1995).

(d) Towards a haptic approach

In 'scrutenis[ing] the senses for the specific roles they play' (Geurts 2002: Loc. 3475), sensory archaeology and anthropology may be used historically in terms of focusing on the sensorial world of First World War aviators to discover how they experienced flying their biplanes.

Pilots of the RFC may be regarded as a 'cultural community' (ibid: Loc. 197). In taking Walter Ong's stance, 'it is useful to think of cultures in terms of the organisation of the sensorium. By the sensorium we mean here the entire sensory apparatus as an operational complex' (Ong 1967: 6).

Merleau-Ponty recognises that subjective experience includes not just passive experience as that represented by sight or hearing, but includes active experience which involves intentionality and movement, a pilot's senses and movements providing 'specific ways of entering into [a] relationship' with an aeroplane, the flying of which provides a 'momentum of existence' (Merleau-Ponty 2002 [1958]: 159; see also Csordas 1990). Csordas uses a phenomenological approach to embodiment in that 'the body is not an object to be studied in relation to culture, but is to be considered as the subject of culture, or as the existential ground of culture' (Csordas 1990: 5).

Touch is not just one sense for the sense of touch has many forms – balance and position, sensation of movement of body, recognising the skin as a sense organ, including sensations of pressure, temperature and pain (Paterson 2007: Loc. 75). Indeed, I seek to show how aviators' subjectivity is defined through their haptic sensory experiences and bodily encounters within the haptic space of their biplane for, as 'each space and place discerned, or mapped, haptically is in this sense our space and because of the reciprocal nature of touch we come to belong to that space' (Rodaway 1994: 55), as a pilot belongs in the cockpit of his aeroplane.

Haptics therefore can be used as an analytical tool to formulate a 'sensory signature' (Skeates 2008) that structures experience for:

... [I]f perception is thus the common act of all our motor and affective functions, no less than the sensory, we must rediscover the structure of the perceived world through a process similar to that of an archaeologist (Merleau-Ponty 2002 [1958]: 5).

Furthermore, if haptics is used in conjunction with sight, hearing and smell to pursue the idea of knowing how to proceed in the world, then it might be possible to analyse a First World War pilot's subjective sensorial experiences.

James Gibson recognises that the list of five separate senses¹⁸ is inadequate, preferring to refer to a 'haptic system' (Gibson 1966: 48) as a functional definition of touch which he defines as 'the sensibility of the individual to the world adjacent to his body by the use of his body' whereby 'men are literally in touch with their environment' (ibid: 97). This might relate very well to a First World War pilot flying his aeroplane for flying was a relatively new technology and, in essence, facilitated a new way of moving and being in the air. It provided a new environment which aviators had to learn how to be in. In interpreting the senses as active systems for perception, and thereby undermining dualisms between mind and body, Gibson (1986 [1979]) focuses on how perception evolved to provide the means for animals or people to acquire information about and act accordingly within their environments. As flying was a new way of moving, concepts of the cultural aspects of the passing of time (Bergson 2008 [1910]), scale (Lock and Molyneaux 2006; Costall 2006) and distance (Helms 1988) in relation to the pilot provide important analytical frameworks in seeking to discover how such concepts are experienced by the pilots of past flying technologies.

Jones argues that '[o]ur bodies do not allow us to "escape" from technological mediation – they are themselves mediating apparatuses, without which there can be no knowledge of the world' (Jones 2006a: 2). Given this, Rainbird's (2007: Loc. 632–635) explanation how the boat as a technological object expands the human sensorium as it 'becomes an extension of the human body, every roll and pitch being full of meaning to the practised mariner' is especially pertinent as it resonates with aviators' experiences of flying.

Particularly valuable given the nature of this research is Gell's model of the 'distributed person' (Gell 1998: 222), adopted from Strathern's (1988) concept of the 'partible person'. Gell uses the example of Pol Pot's mine-laying soldiers in Cambodia

whose mines-as-weapons were part of their 'distributed personhood' (Gell 1998: 20–21), wherever they were geographically, and thus were the 'objective embodiments of the *power or capacity to will their use*' (ibid). A challenging extension of this can be applied to an aviator as he was instrumental in causing events to happen in areas far removed spatially from where his body, flying thousands of feet above the earth, was currently located.

METHODOLOGIES

RESEARCH METHODS

Research was undertaken using the following methods:

- (1) Desk-based library research of published materials (data and theory).
- (2) Desk-based research of unpublished archive materials – documentary (diaries, memoirs), photographic, and audio recordings.

Archives consulted: Australian War Memorial; Imperial War Museum (London); Liddle Collection (Brotherton Library, Leeds University); Princess Patricia's Canadian Light Infantry Museum, Canada; RAF Museum (Hendon); Shuttleworth Collection, Old Warden Aerodrome (Old Warden, Bedfordshire).

- (3) Museum research and internet research on 1914–1918 pilots' material culture (mascots, charms, talismans, trench art, propeller grave markers), and ritual behaviour.

Museums consulted: Horniman Museum, London; Imperial War Museum (Duxford); Imperial War Museum (London); Museum of Army Flying, Middle Wallop, Hampshire; Museum of the Worcestershire Yeomanry; Museum of Witchcraft and Magic, Boscastle, Cornwall; National Museum of Wales; Princess Patricia's Canadian Light Infantry Museum, Canada; RAF Museum (Cosford); RAF Museum (Hendon); Shuttleworth Collection, Old Warden Aerodrome (Old Warden, Bedfordshire); Tangmere Military Aviation Museum; Yorkshire Museum of Aviation; Australian War Memorial.

- (4) Participant observation A, describing and analysing first-hand personal experiences of time spent inside, flying, or taxiing in, open cockpit and Second World War aircraft.
- (5) Participant observation B, attending vintage aircraft events and memorial services.
- (6) Fieldwork A, digital photography.

- (7) Fieldwork B, visits to aviators' graves in Commonwealth War Graves Commission cemeteries in France and Belgium.
- (8) Review and selective purchasing of mascots and trench art on eBay (authentic and non-authentic).
- (9) Collation of information concerning mascots – analysis to formulate a classification of these.

INFLUENCES ON METHODS ADOPTED

(a) Gathering text as primary evidence – an archive archaeology

This research recognises that archaeology does not have to be 'synonymous with "excavation"' and should also encompass work that is accomplished in libraries, archives, and museums (Hicks et al 2009: 5).

Merleau-Ponty's [2002 [1958]] phenomenology recognises pure description of lived experience and emphasises the role of the body in human experience addressing the experience, spatiality, and motility of the body. The writings of First World War aviators are full of references to how they felt, how they heard, how they saw, when engaging with the industrialised warfare of the First World War and in flying the new technology of an aeroplane. The concept of the haptic air-scape of a First World War pilot is an important route to understanding aviators' quotidian practices and their ways of relating to their aircraft. As mentioned above, in the review of aviators' letters, diaries, and memoirs, these sources can be mined for primary evidence of 'sensory communication' (Classen 1997: 401). Such texts are themselves material culture, for they represent a dimension of human creativity integral to the social production of reality (Moreland 2001: 83; cited in Winterton 2012). Airmen's writings were essentially phenomenological in nature in that they provide a first-person experiential dimension in the sense that phenomenology is a 'matter of describing, not of explaining or analysing' (Merleau-Ponty 2002 [1958]: ix). It should be possible to use their writings to promote 'a conceptualisation of the senses and the importance of knowledge acquired through them' (Edwards et al 2006a: 6).

(b) Auto-ethnography

No First World War service personnel are alive today, so first-hand participant observation of flying 100-year old biplanes is impossible, though modern replicas and

somewhat younger biplanes of the 1930s is as near as one can get to appreciating their experiences between 1914 and 1918.

My approach to this aspect of my research required a high degree of self-reflexive auto-ethnography – and therefore goes beyond what is usually meant by ‘participant observation’. Participant observation and perception is adopted as a means of comprehending the sensory experience of being in an open-cockpit biplane. It contributes an element of authenticity and empathy. My approach, therefore, is ‘auto-ethnographical’ (Pink 2009: 64) in terms of experiencing the technology of another era to see how First World War pilots might have related to the aviation technology available at that time. Personal experience is integral to research (Holman Jones et al 2013). My flight was video recorded. My observations and feelings about the flight were written up in a field note book¹⁹ to account for the phenomenological reality of the way my work was produced (Pink 2009: 121).

To date, the concept of a First World War air-scape has not been the subject of academic investigation. This thesis aims to provide a contribution to the study of First World War aviation in that it theorises the idea of a temporal haptic conflict air-scape in terms of an aviator’s relationship with his aeroplane and its effect on the pilot mind and body or sensorium. I also focus on the emotion of fear and the reliance on superstition to cope with such fear. My research is positioned in an interdisciplinary framework and specifically through the lens of MCA, and draws on an archaeology and anthropology of the senses to provide a new focus on the First World War pilot, his aeroplane and beyond.

CONCLUDING COMMENTS

We perceive and experience our environment through our senses. Nevertheless it is not until recently that anthropologically-grounded interdisciplinary questions have been asked about how the human senses respond to conflict in the air. In applying such an approach that incorporates experiential, sensorial, agentic and biographical considerations to the study of First World War aviation, it is intended that this thesis will contribute to a more detailed and nuanced appreciation of human relationships with aviation technology, how the aviators created depth and dimension in their social worlds, and how their experiences and emotions were materialised in a range of objects.

CASE STUDY 1

EXPERIENCING A FIRST WORLD WAR AVIATOR'S HAPTIC AIR-SCAPE

INTRODUCTION

This case study defines one dimension of a conflict air-scape and, in the field of modern conflict archaeology, this approach is the first of its kind, opening up the possibility of further research in human-aeroplane relationships. It introduces the idea of a sense-scape as an analytical tool with which to study pilot sensorial experience in a cultural context. A sense-scape approach is adopted to conceptualise the haptic experiences of a First World War aviator in terms of spatial, physical, and environmental dimensions. This case study also focuses on the habitation of the physical body when flying as well as the re-configuring of the sentient human body in terms of altering perceptions – both of which are integrated in a human being but separated here for analytical purposes.

In terms of fieldwork, a participatory observation approach was adopted which involved flying an open-cockpit biplane in order to add an element of personal experience to the research and also to understand flying terms so that the phenomenological witness accounts of First World War pilots could be better understood and interpreted. This case study is illustrated throughout with quotes from First World War pilots which were gleaned from their diaries and published accounts. It is further interspersed with quotes from my Field Notebook in terms of my personal flying experiences.

The First World War exposed the human body to conditions never before experienced. Newly trained pilots were forced to make sense of not only being in the air but also flying during conflict conditions in flimsy aeroplanes where imminent death was a constant possibility. These efforts 'capture[d] the central link between objects', in this case, aeroplanes, 'and bodily existence' (Gosden 2001: 163) as pilots learned 'to understand the sensorium' (ibid: 166) in which they flew.

My conceptualisation of a haptic air-scape focuses on First World War aviators' sensorial experiences of being in their air-world as the sentient pilot 'body has a history and is as much a cultural phenomenon as it is a biological entity' (Csordas 1994a: 4).

In Aristotle's (1986 [350BC]: 168–186) hierarchy of the five traditional senses, he places 'touch' at the bottom attributing it to the sense of an animal, whilst privileging sight. Thus Greek tradition, in separating mind and body, regarded the mind as being superior to the body in that animals had senses but humans had intellect. Yet, as we will see, for a First World War pilot, the sense of touch in all its forms – haptics – is of critical importance, in fact paramount to his survival. Haptics pertains to 'the nature of, involving, or relating to the sense of touch, the perception of position and motion (proprioception), and other tactile and kinaesthetic sensations' (www.oed.com/view/Entry/84082?rskey=UST14n&result=1#eid [Accessed 27/05/2018]). A detailed description of types of touch-sense and their relationships to aviators of 1914–1918 is given in Table 1.

Table 1: The senses of touch

IMMEDIATE AND EMBODIED SENSES OF TOUCH	
Vestibular sense	Perception of balance and body position, acceleration and deceleration.
Kinaesthetic sense	The pickup of body and limb movement (muscles and joints).
Visual kinaesthesia	An aviator picked up information through head turning and limb movement relative to the body as well as locomotion relative to the environment. Vision is no longer an objectifying sense as a pilot's trained eyes must periodically focus on the horizon as he scans the larger environment ahead, to verify attitude.
Cutaneous sense	Recognising the skin as a sense organ and, in turn, a means of protective communication in terms of recognising sensations of skin pressure, temperature, pain, and vibration.
Senses of proprioception (includes cutaneous, kinaesthetic, and vestibular sensations)	Action and movement sensitivity, the obtaining of information about one's own action. The body's position felt as muscular tension. Position, state and movement of the body and limbs in space – sense of knowing where your body is in space. Includes a sense of gravitational orientation through the vestibular (balance) system in the inner ear.
Tactile sense	Specifically pertaining to the sensation of pressure (also pertaining to the cutaneous sense, but not temperature or pain).
METAPHORICAL SENSE OF TOUCH	
Reaching beyond the immediacy of	Alternative emotional connotation of 'touching' (e.g. a touching experience), e.g. pilots relied on lucky mascots as

present cutaneous sensation, to encompass emphatic, metaphorical meanings, e.g. feelings of fear, anxiety, sadness, loss – how we make sense of the world.	a means of coping with their feelings of fear and anxiety, i.e. touch becomes expressive.
--	---

Sources: after Gibson 1966: 34, 111, 1986 [1979]: 126; Paterson 2007: Loc. 67–78; Wyschogrod 1981, cited in Paterson 2007: Locs. 386, 546.

SPATIAL, PHYSICAL, AND ENVIRONMENTAL DIMENSIONS OF A HAPTIC AIR-SCAPE

(a) The haptic space of an aviator: a world of verification

Photograph Officer Alfred Cabeldu, explained in a letter to his brother and sister, dated 21 January 1917, that ‘you have to be a sort of acrobat to get in and out [of an aircraft] quickly’ (Cabeldu 1917). My personal experience of flying in a Tiger Moth biplane confirms this:

Getting into the plane ... required good climbing skills and vestibular capability for there is a particular way to get into the plane ... to avoid damage to the plane and to avoid entangling one’s legs and feet. There is a rhythm to it, like remembering dance steps (MW, Field Note Book: Appendix 2).

The haptic space of an aviator was small, a fact that I noticed when flying in the Tiger Moth, as:

my body immediately felt hemmed in as it practically filled the cockpit ... my body took over the space, my shoulders almost touching the sides ... [and] the instrument panel was in front of me but seemed very close to my face, its proximity invading my personal space (MW, Field Note Book: Appendix 2).

Of course, the haptic space of different aeroplanes varied. For example, Captain Vernon Castle wrote in a letter of a captured German aircraft in Saint Omer, France, observing that:

The chief thing about their machines is that they are comfortable. Their seats are upholstered and roomy, and you can sit in them for hours and not get tired, while ours are small and make your back ache after half an hour’s flight (Skelton 1977: 63).

The haptic space of an aviator is a world of verification. The pilot is able to physically ‘feel’ the aeroplane as though it is an integral part of him, especially through the tactile points of bodily contact. First, he feels the aircraft through the pressure on his bottom. Secondly, when his hand – ‘the haptic interface’ (Paterson 2007: Loc. 351) – makes tactile contact with the joystick²⁰ his muscles engage to intentionally pull the stick lightly

towards him, enabling the nose of the aeroplane to rise, pushing him further into his seat causing him to feel more pressure. The joystick is sensitive and only a very slight touch is required so the pilot does not see it move, he can only feel it move in his world of verification.

A pilot uses his feet to apply pressure to the two pedals – left and right – which control the aeroplane rudder, keeping it balanced and affording him to control ‘yaw’.²¹ He accordingly feels the aircraft through his feet via the pressure of tactile contact and muscular exertion and this further enhances and verifies his haptic experience. The haptic dimension of air-scape therefore is not a terrestrial world in that the aviator’s feet are not constrained by the experience of being on *terra firma*. The floor of the aircraft becomes an aviator’s technologically-aided substitute ‘ground of perception’ and his ‘surface of support’ and thereby stands in for the ‘earth-air interface’ we know as the ground (Gibson 1986 [1979]: 16).

While the pilot has pedals on which he must place his feet, an observer must be careful where he puts his feet. Captain Paul Copeland Maltby recalls being on patrol at 7,000 feet²² when his observer:

must have closed the air-flaps of [the] engine by fouling the wire with his foot. This gave ... a forced landing in a field not far from the aerodrome which I misjudged ... Spent the rest of the day replacing shock-absorber (Copeland Maltby 1915–1916).

An aviator needs to know how to use and not use his body in order to survive and learn in this haptic world of verification.

(b) Dressed to fly

Conditions could be particularly extreme when flying at altitude in open cockpits and the aviators dressed accordingly, feeling and ‘experie[n]c[ing] their own body’ through the clothes they wore (Jackson 2004: 3). The First World War aviator wore specially designed clothes, such as a sheepskin flying jacket for warmth and a pair of goggles to protect the eyes. Such clothing contributed to the pilot’s unique haptic experience, enabling him to fly and perform his duties, whether artillery observation, reconnaissance, aerial photography, bombing, or protective fighter patrols. Sometimes, allocated RFC clothing was not suitable for the job at hand and it was common for aviators to purchase additional equipment as their individuality and creativity came to the fore. Pilots were issued with regulation leather mittens which, ‘having only the thumb separate and the fingers in a single heavy mitt to handle a Sopwith Scout was like trying to catch a feather

with a cricket bat' (Taylor 1968: 59). Instead, pilot Gordon Taylor purchased gloves made from *Musquash*,²³ the soft leather fingers allowing for a more sensitive touch (ibid: 58). It is quite a remarkable parallel that, as aviators came to the Western Front from countries as far afield as Australia, Canada, New Zealand, and South Africa, that some aviators wore gloves made from the imported fur of a North American rodent – and probably the first time that fur had been used at 10,000 feet.²⁴

Class distinctions were impressed on the skin as aviators' 'social hapticity' was reflected in their clothes, the skin serving as the 'canvas upon which we "see" touch and its cultural associations' (Gilman 1993: 199–200). Evidently pilots bought additional made-to-measure clothes from gentleman's outfitters in London, carrying on habits from pre-war civilian life. In effect, this gave rise to a 'sense of distinction which steer[ed] them away from everything common' (Bourdieu 2010 [1984]: 246), highlighting the 'lived sensory complexity' (Smith 2007: 100) of a haptic air world. Indeed, Maclennan remembers visiting Burberrys, the gentleman's outfitters, to have a fleece lining fitted to his trench coat. He also purchased a pair of leather gauntlets to keep his hands both warm and clean (Maclennan 2009: 46) (figure 7).

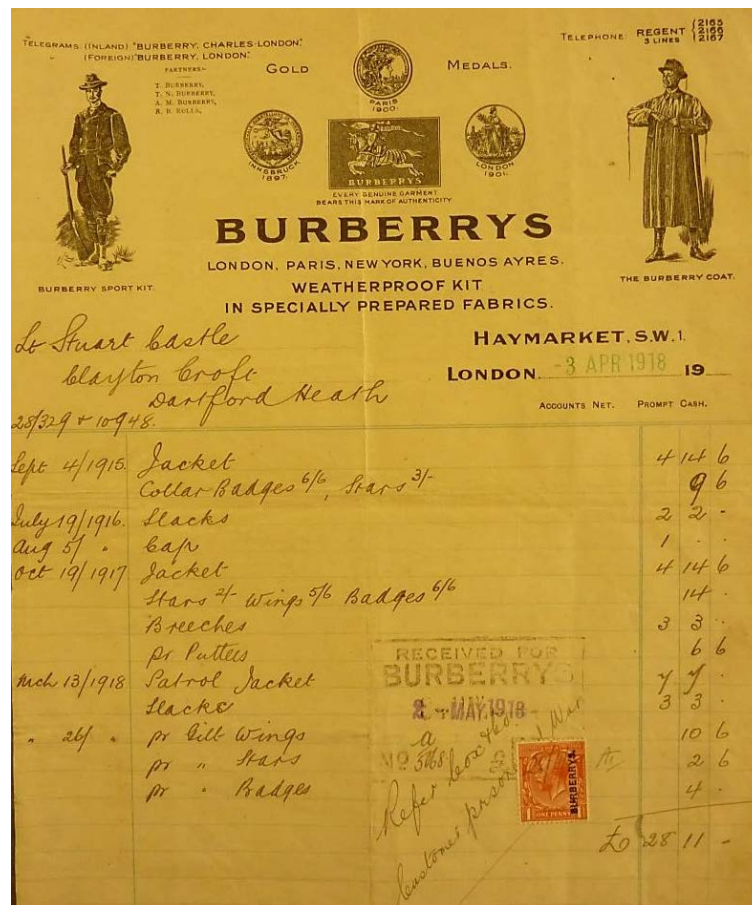


Figure 7: This receipt from Burberrys, dated 3 April 1918, survives amongst the personal papers of Lieutenant J. Stuart Castle, RFC (courtesy Liddle Collection, AIR 65).

Colours may be used to construct collective identity (Young 2006: 173). Airmen on the Western Front wore the same colour uniform, thus identifying them collectively as aviators. From mid-1916, for every wound received in combat, an allied airman was permitted to wear a gold-coloured wound stripe on his lower left sleeve. This represented a cultural message symbolising the creation of a group of wounded airmen, identified visually by a gold flash of colour. Lewis (2009 [1936]: 199) wrote 'The major came in. "You'll be able to put up a wound stripe now!" to him a wound stripe was as good as a decoration'.

Aviators personally adapted their flying gear to feel more comfortable and, in a letter to his wife, Vernon Castle wrote:

10 July 1916

... Darling, have you got an old bit of fur you don't want? I want a piece to sew on the collar of my leather coat. Any old bit will do – just to keep the draught from blowing down my neck when I'm up in the air ... (Castle 1919: 162–163).

Castle later wrote:

August 26 1916

The fur came today! ... The fur is perfectly wonderful dear, much too good for my flying coat. I am going to have it fixed on my British Warm. You know that khaki blanket coat I have. It will look splendid, and I can buy a piece of cheap fur for my flying coat, because it will only get splashed with oil and rain, and would be a pity to waste good fur (Castle 1919: 192).

To some extent, pilots could choose what they felt and, in this case, Vernon Castle did not wish to feel the touch of the wind.

When I (MW) flew in an open-cockpit biplane:

I could feel the constraints and confines of the heavy leather and fur flying jacket pressing on my body and restricting my upper body movement, and, every time I moved I re-felt the touch of weight of the jacket. The touch of the fur collar on my neck made it tickle. Next time I will wear a scarf underneath the fur collar (MW, Field Note Book: Appendix 2).

When Gordon Taylor first joined his squadron, he wore a warm woollen scarf under his flying jacket but the constant need to turn his head caused his neck to chafe so he substituted it for a silk scarf (Taylor 1968: 140).

(c) Adapting to the physical and environmental extremes of a haptic air-scape
Since 'the skin has constantly occupied the forefront of human consciousness' (Montagu 1986 [1971]: 13), it is apparent that it is taken 'entirely for granted, except when it burns and peels, ... or perspires unpleasantly' (ibid). The extremes of temperatures on a hot sunny day were captured by Arthur Gould Lee who wrote of being very hot while sitting outside the office. Changing into flying kit had caused sweat to run down his skin and, on flying up towards the cold, he felt 'chillier and chillier, a most uncomfortable feeling, like being encased in an icy rubber sheet' (Gould Lee 1969: 99). Flying at different heights exposed airmen to a variety of temperatures, becoming colder the higher they flew.

The skin is the most sensitive of our organs and, covering the whole body, it provides a barrier between the body and the environment. As such, it presents as 'our first medium of communication, and our most efficient protector' (Montagu 1986 [1971]: 3), registering sensations of pressure, temperature and pain.

Flying in open cockpits meant that, at times, aviators were subjected to extreme conditions of cold, the results of which might transform their bodies into 'skinscapes ... for while we may perceive aspects of the environment with all our sensory organs, only the skin can manifest the marks of what it has perceived' (Howes 2005b: 33). For example, Gordon Taylor wrote of being affected by facial frostbite while exposed to freezing conditions when flying at 10,000 feet.²⁵ Initially, he felt a burning pain all over his face that felt like extreme sunburn. He wondered what caused it until somebody informed him it was frostbite (Taylor 1968: 61). 'Adaptive living' (Gibson 1966: vi) became possible as preventative measures were taken to reduce both being cold and the resultant effects on the body of being cold. Pilot, J.M. McCudden, after feeling the physical effects of frostbite on his face, decided to wear the official Pattern flying mask that was issued for use (1987 [1918]: 77) (figure 8). As the elements 'attac[k] the sensorium, ... masks are its shield: just as a mask can disguise or transform identity, a ... mask disguises and transforms the senses' (Moshenska 2010: 625).



Figure 8: Royal Flying Corps leather Pattern flying mask designed to protect the face from the elements, including windburn and frostbite (© RAF Museum).

Other measures were taken and ‘any parts of bare skin left open to the air were coated with whale oil to prevent frostbite’ (Compston 2009 [1931]: 89). Similarly, Vaseline or engine grease was also smeared on the face (Allingham 2009: 69) and such anti-cold precautions were designed to prevent the sensory assault of cold wind and frostbite.

Flying at different heights exposed airmen to a diversity of temperatures. Gould Lee recalls descending from an 18,000 foot²⁶ 2-hour patrol during which he felt extremely cold. But when flying at 3,000 feet,²⁷ it felt much warmer and he began to recover from the effects of the cold but ‘the blood rushing through [his] half-frozen fingers gave [him] a stinging bout of pins and needles’ (Gould Lee 1969: 68) making him very aware of his descent and of the varying thresholds that could be experienced at different altitudes.

Sometimes the effects of the elements, such as snow and wind, ‘invaded the body’s tactile awareness’ (Ingold 2011: 134). Wing Commander Eric Routh describes flying while severely hampered by the snow which invaded the cockpit from all angles and covering the windscreen. He had to lean out of the aeroplane in order to see where he was going. This caused his goggles to become covered in snow, and:

if I took them off snow got in my eyes and they watered ... the only way I could see was to hold my hand in front of my face so that I could see downwards and occasionally slightly forward (Routh n.d.).

The snow invaded his tactile awareness, mingling with his bodily essences. In a similar manner, during my own Tiger Moth flight, 'I was aware of a very strange sensation of wind blowing up my nose which startled me and I am sure I could feel the cold wind in my mouth and taste it, the wind invading and, to some extent, alarming, my tactile awareness' (MW, Field Note Book: Appendix 2). Conversely, inner bodily substances, such as blood, 'traversed the boundary of the body' (Douglas 2002 [1966]: 150) and, Gould Lee, shot in the calf while flying, '[c]ould feel the blood dripping down inside his flying suit' (Gould Lee 1969: 60). Hence tactile awareness can be a two-way experience as substances both enter and exit the body.

Cold wind is known to set sensitive teeth on edge. Denys Corbett Wilson became worried that his teeth would soon give him trouble when the wind 'touched them up' (MacCarron 2006: 145). Indeed, it is evident that '[a]mong all the senses, touch stands paramount. The sense of pain, mediated from the skin to the brain, provides an essential warning system designed to compel attention' (Montagu 1986 [1971]: 17). Many pilots experienced headaches due to the effects of flying at increasing heights. This caused Second Lieutenant Downing to take curative measures by writing home: 'Oh! By the way could you send me some asperines [sic]. I have had pretty bad headaches just lately and think perhaps they would do me good' (Downing 1916–1917). Man-made substances are, therefore, ingested to counter the adverse physical effects of being in the air through technological means.

The sudden changes of altitude caused the eyes and ears to be prone to the sense of pain. An unknown aviator wrote in his diary:

My eyes are so sore that it's getting hard to write. You can't wear goggles when you are out hunting and the wind blows your eyelids when you sideslip or skid. ... our ears are ruined forever. The sudden changes of altitude play hell with them. Going up in an elevator a few hundred feet used to affect mine. Now I dive five thousand ... and they ache all night (White Springs 1966 [1927]: 153).

The sensations felt whilst flying could continue on the ground, the consequences of being able to move several thousand feet up and down. Indeed when I flew the Tiger Moth, '[w]e came down to land fairly fast and the sudden change from low to high pressure blocked my ears for a while, making me temporarily deaf and somewhat disoriented' (MW, Field Note Book: Appendix 2).

In a conflict haptic air-scape, the natural phenomena of clouds could be either friend or foe to the aviators. Very high clouds formed of ice crystals were an aviator's

enemy for they provided 'a light background, against which aeroplanes are boldly silhouetted, to the greatest advantage of the anti-aircraft gunners' (Bott 1976 [1916]: 140–141). Conversely, the friendly clouds found several thousands of feet lower and formed of water-vapour were useful if a pilot was flying above them for they helped him to dodge German anti-aircraft fire and 'when numerous enough to make attempts at observation ineffective, they perform an even greater service for him – that of arranging for a day's holiday' (ibid: 141). Flying inside the clouds is risky for the pilot's vision is restricted to not much more than one metre beyond the wing tips of the aeroplane, 'nothing is to be seen but the aeroplane, nothing is to be heard but the droning hum of the engine, which seems louder than ever amid the isolation (ibid: 155). Flying inside clouds, therefore, magnifies a very peculiar set of sensorial experiences. Pilots frequently flew amongst the clouds in order to hide from German aeroplanes to avoid being the target of attack, so clouds in this sense were a natural phenomenon culturally reconfigured as 'camouflage' that pilots had to learn to use. Since vision was reduced, it was necessary for the pilot to steer by compass without the aid of the sun or the sight of a landmark to guide him. Lewis describes what it feels like to fly through cloud whilst relying on instruments:

he climbs steadily through it, knowing there must be a top, but ignorant of how high above him it may be. The clouds seem to come right into the cockpit, pressing in on him and there is nothing but the roar of the engine and the pointers on the dials. ... it requires courage for a pilot to trust his instruments. He feels the aircraft is slipping this way or that, it is turning, stalling, diving. But he knows he must suppress his own instincts and keep everything straight and steady. The bumps throw him about, the aircraft shudders (Lewis 1964: 83).

In a similar manner, air was culturally reconfigured to be used as a fire extinguisher whilst flying. During an interview, First World War pilot John Davies (1987) was asked what happened if his aeroplane caught fire whilst flying. He answered: 'the only way to avoid fire in the air was to sideslip and perhaps put the fire out – if you are going forward the flames come back at you but if you sideslip you can send them up that way and put the fire out'. To sideslip, the pilot had to bank in one direction using the ailerons and the rudder in the opposite direction simultaneously. This caused the aeroplane to slip sideways left or right of the main longitudinal direction of travel causing an apparent wind on the face opposite to the direction of slip (Thom 1987: 132–134).

MAN AND MACHINE: THE CULTURAL TRANSFORMATION OF THE HUMAN BODY

(a) Pilot – aeroplane relationship

Learning to fly was not easy and RFC trainees felt unfamiliar and awkward in their initial interactions with an aeroplane. While undertaking training at Hendon Aerodrome, North London, Frederick Ortweiler speculated whether he could control the aircraft if it suddenly moved sideways or forward. He answered his own uncertainty with the positive comment, ‘that feeling will no doubt soon come’ (Ortweiler 1917) as his body entered into a malleable relationship with his aircraft.

Ortweiler found it difficult to tell if his aircraft was horizontal longitudinally and laterally. At times, when he thought the aeroplane was ‘right’, his instructor corrected it because Ortweiler had not yet developed his flying instinct in terms of skill and experience. On this occasion:

[Ortweiler] found afterwards that it was the old bus’ fault; to fly her straight it was necessary to keep on a bit of right rudder and as I did not know it, and kept the rudder-bar straight, she naturally did not fly right (Ortweiler 1917).

In an archived taped interview held at the Imperial War Museum, James Gascoyne recalls his training days at Thetford in 1917. He relates how his flight instructor informed him ‘how clumsy [he] was, too heavy footed [and] too heavy handed’ (Gascoyne 1972). Nervous pupils often clutched ‘the joystick so firmly that the instructor would have difficulty using the dual controls to correct the error being made’ (Hopkins 1972: 46). From my own experience, the first time I apprehensively took control of the Tiger Moth, flying at 1,000 feet,²⁸ judging by the pilot’s comments to me over the intercom – he called me a ‘hooligan’ – I was too heavy handed in that I gripped the joystick tightly and the pilot had to caution me to be ‘nice and gentle’ because he was unable to move the controls (Appendix 3, Tiger Moth Flight Transcript). All the controls require is a very sensitive touch to facilitate a manoeuvre. Indeed, pilot, John Aldridge, recalls that some flight instructors ‘carried a wooden mallet to lay out any pupil who might become so frightened that he froze on to the controls’ (Aldridge 1976: 3).

Even when a pilot obtained his brevets (flying wings), he still had to learn how to fly different aeroplanes in terms of understanding their handling capabilities and feeling their tolerances. Lieutenant Charles Smart recalled flying to Saint Omer, France to fly a RE8²⁹ aircraft:

I strongly object to these machines, no end of experienced pilots have killed themselves on their first trip on these machines ... it is much too heavy and cumbersome, more like flying a steam roller than an airplane (Smart 1916–1917).

Flying a captured German Albatros aeroplane,³⁰ Gordon Taylor learned much about the opposition's air power. As the Albatros gathered speed to take off, it had to 'run quite a distance before it showed any inclination to leave the ground' (1968: 116) following which Taylor 'could feel the wheels rattling light upon the surface of the stubble field' (ibid). Taylor then applied 'a little back pressure on the stick' (ibid) (backward movement to raise the nose) to become airborne. The pilot's sense of bodily movement (kinaesthesia) is invoked here as he tenses his muscles from within to hold 'the machine in a steady climb to a thousand feet' (ibid).³¹ He 'applied the controls to a left-hand turn' (ibid). While the aircraft was flying at a lateral angle, Taylor felt 'it was quite light' (ibid), but when he applied more pressure on the stick to steepen the turn and tried to pull the machine round with the elevator (and by applying his foot to the rudder pedal to maintain airspeed), 'it seemed very heavy, putting up a resistance to the turn' (ibid) – pulling back harder on the stick increases the rate of turn of an aeroplane, but becomes physically harder to do so that the pilot's arms and body are taut with strain as he tenses his muscles to hold and balance the aircraft. Taylor could see immediately why the Albatros pilots avoided 'the close duelling turns' (ibid) for it was the aeroplane that was most manoeuvrable and quickest in the turn that was most likely to win in combat. The feel of the aircraft helped him 'see' in terms of accumulating knowledge of the tolerances of an enemy aircraft which would help him with haptic tactics when he encountered an Albatros on future occasions.

While novice pilots could be clumsy and heavy handed, experienced pilots could 'feel' a cumbersome and heavy aeroplane. Similarly, pilots could 'feel' a well-designed aircraft, particularly one that was not susceptible to every bump experienced in the air and on the ground. As MacLennan noted about his Avro trainer aeroplane:³²

This machine ... is so well designed that bumps need hardly be considered by the pilot. They chuck his machine about and would do this to any bus made but an Avro corrects these herself and the pilot does not have to be continually wagging the stick about as he does on a BE2b³³ (MacLennan 2009: 59).

The felt tolerances of an aeroplane were culturally important to aviators of the RFC but were not immediately apparent – they came with experience and were bodily ways of

knowing in terms of representing a 'culturally constructed sensorium' (Geurts 2002: Loc. 973). First World War aviators saw the boundaries between man and machine dissolve as the sentient pilot body was culturally transformed and humans and non-humans become entangled (Latour 1993: Loc. 565).

(b) Re-configuring the sentient human body

In adopting a material culture approach, I move beyond the processual paradigms that analysed the form, materials and method of manufacture of an object and acknowledge that object and person need not be viewed as separate entities. Indeed, things may be regarded as 'material prostheses to the human body, extensions that allow human beings to come alive', particularly 'devices that extend the human capacity for movement' (Thrift 2010: 639) such as First World War open-cockpit biplanes. These aeroplanes and their technology represent a re-modelling of the human body into the pilot body, making 'sentience itself an artefact' (Scarry 1985: 255).

Many pilots compared flying open-cockpit aeroplanes to riding a horse:

The [Sopwith] Pup I ferried from No. 1 AD this morning was a joy to fly, with smooth and willing engine, and very sensitive response to the controls, just like a spirited horse, eager to the slightest touch of rein and knee. In fact when you get a thoroughbred Pup like this you feel as though you're controlling a living thing, as though the two of you are one creature gambolling in the air. It's something you can't convey to anybody who doesn't fly (Gould Lee 1969: 41).

Many pilots died during the First World War due to inexperience and having insufficient flying hours. Constant flying practise and, therefore, mounting experience of flying the aeroplane and getting to know its peculiarities meant that the pilots' bodies were haptically re-configured as they learned to instinctively feel and handle their aircraft with confidence:

[t]he best pilots are "part" of their machines and we were always encouraged to be so at home with our aircraft that nothing could surprise us. Our reactions in an emergency would be "second nature", instinctive, *as if the aeroplane was an extension of our very self*. So on summer evenings up for test (never on returning from patrol in case of unsuspected damage from enemy action) we would often climb up to play follow-my-leader or to fight mock duels among the clouds (Lewis 1964: 64). [Emphasis added.]

When firing a gun on the ground, a marksman moves his body to a suitable stance, raises his arm, aims and fires. However, in the air the aeroplane substitutes for the body as the pilot aims the aircraft. As Gould Lee observes, '[y]ou don't aim the [Vickers] gun, that's

fixed in the line of flight, you aim the aeroplane with joystick and rudder' (Gould Lee 1969: 50).

Mauss observed that 'in every society, everyone knows and has to know and learn what he has to do in all conditions' (Mauss 1979 [1935]: 120; see also Bourdieu 1977). Learning to fly is not a straightforward matter for pilots did not just learn a skill and somehow perform it as implied in Bourdieu's (1977) notion of *habitus*. A pilot has to 'know' his machine in terms of its peculiarities and the best way to handle it. He must also know how his aeroplane will react in certain circumstances for, to become accustomed to an aeroplane, 'is to be transplanted into [it], or conversely, to incorporate [it] into the bulk of our own body' (Merleau-Ponty 2002 [1958]: 166).

(c) Re-configuring the senses

Aviators' senses were re-configured and culturally constructed as they learned to engage with a new way of moving.

It is claimed that vision has been prioritised over other senses in the Western world (Howes 1991a: 3–5). But sometimes seeing in our own recent historical world is not a straightforward concept for it is a matter of knowing *how* to look and this is particularly relevant when flying.

Sight is an active ability that deploys not just the eyes but other parts of the body as muscles are engaged that turn the head or focus the eyes (Gibson 1986 [1979]: 126). The pilot must, at all times, maintain a high visual awareness of the environment outside the cockpit. He must relate the attitude (or nose position) of the aeroplane to the natural horizon³⁴ and hold the aircraft on an even keel, or, indeed, in any position, by reference to the horizon. A pilot must also check his passage over ground, look out for other aircraft and avoid flying into clouds (Thom 1987: 22). Flying an aeroplane depends on a number of perceptual abilities that are necessary to gauge depth, distance and motion. The spatial character of a pilot's visual world is given not by the aeroplane but by the background to the aircraft for the pilot's space is 'determined by the ground and the horizon, not by the air through which he flies' (Gibson 1950: 6).

A pilot learns body techniques (Mauss 1979 [1935]) regarding eye movements when he visually scans his aerial environment and it is this vital practice that enables him to 'see accurately a continuous visual world in which he himself moves with precision' (Gibson 1986 [1979]: 129). The pickup of information through head turning, Gibson calls *visual kinesthesia* (ibid: 126). First World War pilot, Cecil Lewis explains:

... the fighting pilot's eyes are not on the ground, but roving endlessly through the lower and higher reaches of the sky, peering anxiously through fur-goggles to spot those black slow-moving specks against land or cloud which mean full throttle, tense muscles, held breath, and the headlong plunge with screaming wires – a Hun in the sights, and the tracers flashing (Lewis 2009 [1936]: 175).

It was quite common for men with excellent sight on the ground to appear blind at times when flying through the atmosphere because an inexperienced pilot:

had to give most of his attention to the leader, watching closely for signals; he therefore could not be expected to see as much as one whose eyes were attuned to distance and whose whole attention could be given to finding the enemy (Compston 2009 [1931]: 87–88).

But even finding the enemy was not a straightforward process for haptic tactics had to be adopted to see them. For example, Rothesay Stuart Wortley, a RFC Flying Officer, wrote about new flying recruits in his diary:

... The Flight Commander has experience: he can see a great deal more than the tyro; and he knows where to look. If he does not dive on a Hun ... a few thousand feet below him, it is because he recognises in that Hun a bait, and at once looks upward to perceive a formation of enemy scouts waiting to swoop in their turn on his tail (Wortley 1982 [1928]: 165–166).

In looking up, the Flight Commander is not just using his sight but is engaging his neck muscles to turn and focus his eyes. Flying changes how you see and the sense of sight has a tactile dimension for it involves eye movement and head turning. For the aviator vision is not an objectifying sense, but should be understood in terms of its interrelationship with other senses. Flying an aeroplane involves both 'skilled vision' (Grasseni 2007a: 4) and skilled bodily movement. A pilot's trained eyes and haptic responses create a sentient technology of the pilot body as 'operational sight' (Winterton 2017: 251) is engaged in the form of 'visual kinesthesia' (Gibson 1986 [1979]: 126), as a pilot's eyes become attuned to distance as he scans his aerial environment. Such skilled vision, or re-configured means of seeing, has evidently re-shaped human consciousness as it 'shifts in tandem with the technologies that engage our senses' (Abram 1997: 115) in new ways.

The reconnaissance undertaken by the RFC was crucial in the lead up to the Battle of the Somme in 1916.³⁵ Lieutenant A.J. Evans, of No. 3 Squadron writes about recognising features in the landscape from aerial photographs taken just a few days before the Battle of the Somme commenced (figures 9 and 10):

Only an expert observer would know that the thin straight line was a light railway; that the white lines were paths made by the ration parties and

reliefs following the dead ground when they came up at night; that the almost invisible line was a sunken pipe line for bringing water to the trenches, and that the shading which crept and thickened along the German reserve trenches showed that the German working parties were active at night if invisible in the day time. For the shading spelt barbed wire (Evans 1923: 3–4).

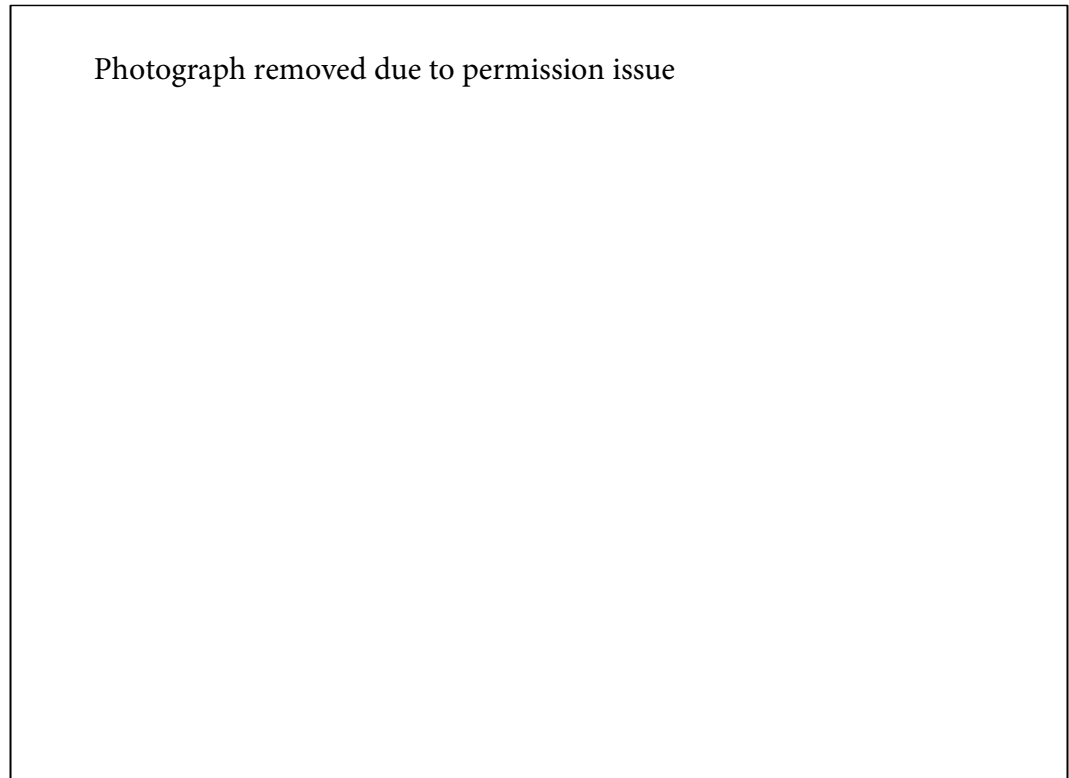


Figure 9: Aerial photograph. Area: River Ancre to River Somme. La Bassée Canal to River Scarpe (General Staff 2013 [1917]: Plate 4).

Photograph removed due to permission issue

Figure 10: Interpretative sketch of aerial photograph above, at figure 9, (General Staff 2013 [1917]: Plate 4).

Pilots took several vertical³⁶ aerial photographs of particular areas with a 60% overlap that could be viewed together through a stereoscope (figure 11) to bring forth the perception of depth and, therefore, useful in intelligence derived from aerial photographs. Such an assisted means of seeing culturally enhanced the illusion of depth and interpretation of what was seen.

Photograph removed due to permission issue

Figure 11: Stereoscopic viewer and simple eye piece (General Staff 2013 [1917]: Plate 45).

The design limitations of some First World War aircraft denied vision to pilots. Indeed, during my own flight 'I could not see out to the front of the plane because the wings blocked my vision. I could see to the right and left though the wings restricted my vision' (MW, Field Note Book: Appendix 2). In the air, blind spots caused by the design of the aeroplane force the pilot to manoeuvre his aircraft by flying at an angle for an improved view. This required that the pilot understand the flying abilities of his aeroplane in order that he could overcome design inadequacies. He would then be in a position to observe in all directions without obstruction. While out on patrol in the cold weather, Gould Lee remembers that he:

searched the sky, continuously, eastwards, above, below, on our level, and in rear, tipping the machine laterally and swerving lightly, to uncover blindspots. Trying to get a view downwards, I stuck my head over the fairing of the cockpit, and the blast of the ice-cold air took my breath away (Gould Lee 1969: 68).

During the First World War, neither aeroplanes nor pilots were equipped to fly in the dark for '[t]here was no night training. No cockpits were fitted with any instrument lighting. No dials were luminous' (Lewis 1964: 74). But pilots had to overcome these

technological deficiencies and they did so by 'feel and instinct' (Yuille 1973). Cecil Lewis (1964: 74) recalls raiding the aerodrome stores for hand torches to fly at night because German aeroplanes were approaching the Thames estuary. He remembers that somebody rigged up a line of flares made from paraffin-soaked cotton waste burning in a bucket to enable him to take off. The smoky smell filled his cockpit, invading his nostrils as it dominated his haptic awareness. He always associated that smell with his first night flight since '[m]emory as a distinct meta-sense transports, bridges and crosses all the other senses' (Seremetakis 1994a: 9). As pilots learned to fly at night, their haptic senses became ever more refined as the pilot body became tense and alert to compensate for reduced vision. A pilot's 'muting sight increase[d] awareness in other senses' (Carpenter 1973: 23) as he became, for example, ultra-sensitive to each vibration of his aeroplane's engine. On the night of Lewis's first night flight, the moon shone bright and aided his vision:

the dreaded blackness was a wonderful misty landscape in which the Thames Estuary, like a pool of silver, bisected the Kent and Essex coasts, and every roof top reflected the radiance of the rising moon ... An exquisite, silent, fairy-like world of mist and meadow was spread below me (Lewis 1964: 75).

Lewis could hear his engine revolutions and feel his air speed (Lewis 1964: 75) as his haptic senses were heightened to compensate for his reduced vision.

Archibald Yuille recalls flying on a night patrol, whereby:

you were just there, up by yourself, in the dark, for 2 hours. ... you'd come down absolutely hoarse because one of the things one did was to sing. We used to sing quite unconsciously ... Well, it's lonely; two hours up there in the darkness seeing nothing. It's an extraordinary effect and not everybody has the mentality to do that (Yuille 1973).

Many airmen wrote of singing while flying to relieve the boredom. The RFC had a repertoire of songs and rhymes, often sung to the music of an already existing and well-known tune with a repetitive chorus. Some of their rhymes 'engaged the sense of touch through the tactile and kinaesthetic dimensions of speech' (Classen 2012: 123). The words of tongue-twisters enabled them to feel the words through their mouths, and the following is an example of alliteration being employed:

Heavy handed Hans flies Halberstadters,
In handy, Halberstadters for a flight our Hans does start;
His Oberst says, O dash it,
For I fear that he will crash it,

See how heavy-handed Hans ham-handles handy Halberstadts!

(Ward-Jackson 1945: 22).

(d) New haptic thresholds

Flying up to 20,000 feet³⁷ was a new feat of endurance during the First World War. As pilots of the RFC pushed their aircraft and their bodies to limits unimaginable at the outbreak of the war, aviators experienced new corporeal feelings, such as the effects of centrifugal force and breathing difficulties. It could take 15 minutes to climb to 10,000 feet,³⁸ although it felt much longer, and up to 30 minutes to climb to 15,000 feet³⁹ because the higher the aeroplane went, the slower it became (Gould Lee 1969: 46).⁴⁰

When learning to fly, Taylor remembers taking a test to prove he could reach a height of 6,000 feet.⁴¹ He had only ever flown at 2,000 feet⁴² and was uncertain what the effects on his body at such a great height would be. He gradually flew to heights of 5,000 feet⁴³ which caused breathing difficulties, whilst heights of 5,400 feet⁴⁴ made him feel dizzy. He gradually grew accustomed to ever-increasing heights until, some 3 months later, he was easily flying at 17,000 feet⁴⁵ (Taylor 1968: 28).

Critical signs of being alive include a beating heart and a breathing body but these occur in the background of our bodily awareness, only coming to our attention when something out of the ordinary occurs, such as the effects on the body of flying at high altitudes. Gould Lee was aware of the effects of flying at 15,000 feet⁴⁶ for he could feel his heart thumping and he noticed that he was breathing in long open-mouthed gasps (Gould Lee 1969: 186) to compensate for the lack of oxygen.

It was only through men being prepared to exercise their sense of risk and adventure, to see how high they could fly in the aircraft of the day that fuelled 'technological innovation' (Pfaffenberger 1992). Haptic 'thresholds come into operation at specific levels of stimulation' and such thresholds 'may be culturally learnt [as well as] biologically determined' (Rodaway 1994: 37) as pilots adapted to their environment and re-configured their sensibilities. Of course, such thresholds are not without limits. In order to achieve ever higher altitudes, the sentient pilot body was further adapted by using oxygen masks to facilitate breathing, thus making it an 'artefact *in extremis*' (Winterton 2012b: 230; see also Scarry 1985: 255).

The noise of the aircraft's engine confirmed to the pilot that the aircraft was performing correctly, 'the roar of the motor feel[ing] like the very lifeblood' (Ortweiler

1917), the pilot seeking the human traits of being alive in his machine. A pilot would instantly be alerted to occasions when the engine cut out which could signify trouble for an:

airman is accustomed to the full roar of his engine, and it never distracts his attention, any more than the noise of a waterfall distracts those who live near it. But if the roar becomes non-continuous and irregular he is acutely conscious of the sound (Bott 1976 [1916]: 96),

unless, of course, it had been purposely cut to promote a safe landing for these early flying machines glided in to land:

When the engine is shut off and the nose of the machine pointed towards the earth in order to come down, the beginner usually has a horrible sinking feeling about the stomach. This sensation entirely disappears as one does more and more flying ... (MacLennan 2009: 59).

The pilot becomes familiar with the new sensations of stretched bodily tolerances and, gliding back to earth at '70 miles an hour with the engine off, without the pilot's hands touching any of the controls', could result in 'probably the most pleasing sensation of any ...' (MacLennan 2009: 59).

As the human body had to adjust to flying high, allowances had to be made for descending in order to allow it time to adjust and acclimatise to the higher air pressure and temperatures. My own experience was that I was going 'down to land fairly fast' and 'the sudden change from low to high pressure blocked my ears for a while, making me temporarily deaf and somewhat disoriented' (MW, Field Note Book: Appendix 2), the physical effects of flying lasting on land, thereby joining the two physical and sensorial realms. Eynon Bowen discovered a way to avoid hearing difficulties as can be seen in a letter he wrote to his mother:

... I have taken to chewing gum while flying. It sounds bad, but it keeps you from getting deaf ... Would you send me some in my next parcel? Wrigley's spearmint is about the best. I think you get it at a tobacconist ... (Bowen 1915–1916).

(e) Haptic activities

The pilot had a purpose beyond flying his aeroplane – such as reconnaissance and taking aerial photographs, and shooting at the enemy – all duties which required his senses of touch in haptic activities. For example, when attacked from behind, the pilot had to stand in his seat, hold the joystick between his knees – relying on his vestibular sense to maintain his balance and steady the machine in the air – while simultaneously holding his

gun steady in order to fire backwards over the top of the aircraft (Lewis 2009 [1936]: 25). Such balance enabled him to keep his hand steady for long enough to allow him to squeeze the trigger, causing death and destruction through the touch of a finger – the touch of conflict.

While training as an observer at the Aerial School of Gunnery, in 1916, Second Lieutenant Downing wrote in a letter:

Dearest old girl

... Today I have been up twice and feel quite at home in an old bus now, although I have not quite got used to the standing up stunt, which we have to do, that is, you are perched right out in front of the machine in a small nacelle about a foot high, and whilst anything from a thousand feet high, stand up and fire at targets, balloons etc, with a machine gun, whilst the old machine you are in, is perhaps tearing to earth, at about 90mph.

I expect you think that this is rather far-fetched, but I assure you it is not, and honestly after the first few times, you take no notice of it as you cannot fall out, the pressure of the wind prevents it, but I must admit to commence with, it gives you a nasty feeling in the tummy (Downing: 1916–1917: 25) (figure 12).



Figure 12: An observer demonstrating the precarious stance required to use the rear-facing Lewis gun, Ste. Marie-Cappel, France, 1918 (© IWM (Q69650)).

The airmen of the RFC took aerial photographs to map enemy positions for counter-battery fire. In a letter to his wife, dated 1 July 1916, referring to oblique⁴⁷ photographs taken at an angle, Vernon Castle writes:

This photography is the worst job one can get because they have to be taken very low and one is well in range. I had my plane hit three times with pieces of shell, and the concussion you get makes you think the machine is blown in half ... I was sick with fright and jolly glad to get back home (Castle 1919: 152).

Castle flew patrols during the Battle of the Somme taking many aerial photographs and, on 24 October 1916, Castle wrote to his wife:

... Darling, there is something I want you to bring me from New York, and that is a pair of Binoculars with a *Zeiss* lens. The *Zeiss* is the best lens in the world and as it's German we can't get any, but I'm sure you could buy them in America. Strong field glasses are tremendously useful out here (Castle 1919: 225).

Taking aerial photographs was a haptic activity that, as well as connecting with the camera, meant that the pilot had to multi-task while engaging with his aeroplane. Since the camera was fixed to the aircraft, the pilot had to manoeuvre his aeroplane to point the camera at the required spot to be photographed. As he looked down through two cross-wire sights, when the target was in focus, he had to simultaneously operate a plate camera to take the aerial photographs. This process of hand-and-eye coordination required continuous attention to the camera sights and a disregard of enemy aircraft, such disregard causing Captain Herman Lloyd Tracy to feel his 'hair literally stand up' (Vann 1978: 23). Tracy had to take twenty four plates and it 'seemed to take 24 hours to expose them all with A [Archie (anti-aircraft shells)]⁴⁸ and EA [enemy aeroplanes] doing their bit in the neighbourhood' (ibid).

The technology of aerial photography 'extend[ed] the reach of the [aviator's] body' (Rodaway 1994: 32). The pilot's body did not want to remain under fire but had to complete his task all the while resisting his natural urge to flee from danger as his sense of duty took hold. His urge to fly away was restrained and superseded by other haptic senses for, as he holds his breath in concentration, he feels his mouth go dry and, as he tenses his muscles until they ache, he tries to concentrate on the haptic activity in hand.

An aviator made notes of his observations and sometimes sketched maps in flight but, with such little space to achieve this, his body was haptically modified by attaching a knee desk to his upper leg in order that his duties could be fulfilled efficiently (figure 13).



Figure 13: Knee desk, strapped to aviator's upper leg to enable him to make notes without disturbing his ability to operate his controls while flying (© IWM (EQU 3834)).

It could be awkward writing while flying in the air and, sometimes, an aviator avoided touching the sides of his aircraft so as not to feel the vibration, as Alan Bott elaborates:

Passing a few small woods, we arrived without interruption over the railway junction of Boislens. With arms free of the machine to avoid unnecessary vibration, the observers trained their glasses on the station and estimated the amount of rolling stock. A close search of the railway arteries only revealed one train. I grabbed pencil and notebook and wrote: "Boislens, 3.5 P.M. 6 R.S., 1 train going S.W." (Bott 1976 [1916]: 91).

Here, haptic verification is put to one side in favour of a haptic activity as aviators were able to choose their haptic experience in order to accomplish the task in hand.

Aviators could feel movement through the air such as that of enemy fire, for '[t]ouch may not contact a distant movement in the environment directly, but feel the vibration generated in materials in contact, or reach of, the body' (Rodaway 1994: 26) or the aeroplane. James McCudden remembered flying an aircraft while directing the fire of an Allied 15-inch Howitzer gun noting: '[t]he bursts of their 15-inch shells were enormous, and even at 6,000 feet⁴⁹ we would feel in the machine slight concussion after the shells burst' (McCudden 1987 [1918]: 75). Similarly, in April 1917, while flying over Arras, France, when all the guns on both sides in the district were firing, pilot Lieutenant Charles Smart recalled '[t]he whole ground, particularly on the enemies side, was simply seething with bursting shells ... [and] [t]he air was just stiff with flying shells and we got no end of bumps from them as they passed under and over us' (Smart 1916–1917)

bringing the touch of the war on the ground a bit too close for comfort in the air world, but linking the two sensorial zones as up and down merged.

(f) Communication

Whilst the haptic senses are a means of bringing physical phenomena to our attention, they also bring forth cultural values, for example, in terms of sensory communication, as aviators had to develop ways of communicating with each other while in the air.

At flight training school, Frederick Ortweiler sat in the front of a two-seater aeroplane and could feel the instructor tap him on the back to signal that he wanted Ortweiler to take control and fly the plane (Ortweiler 1917). This was a pre-agreed form of communication between the trainee pilot and the flight instructor. Similarly, a tap on the right or left shoulder indicated a right- or left-hand turn; a tap on the top of the head meant to put the nose down to descent; and a tap on the back of the neck meant pull the control column back and climb (Hart 2005: 108). Ortweiler could not see his instructor and, if his instructor spoke to him while flying, he would not be able to hear him because of the noise of the engine. Since his senses of vision and hearing were denied, touch became the mode of communication. Hence the relationship between the instructor and the trainee pilot was structured by their mutual sense of touch as one touches and the other is touched.

In two-seater aeroplanes, the pilot sitting in front of the observer could not hear the other speak but the innovative airmen found ways round this. At first they wrote each other messages or shut down the engine. Such actions however used up too much time. Then there was 'an experiment with a speaking-tube similar to those through which a waiter in a Soho restaurant demands [food] from an underground kitchen' (Bott 1976 [1916]: 10) but the noise of the engine again defeated this innovation. Bott describes how eventually a forward-thinking pilot fitted a mouthpiece and earpiece to a length of tubing, which solved the problem (ibid).

Aircraft and pilots' bodies also merged when flying in formation, as the flight leader used his aeroplane to communicate to the other pilots when they should turn in unison. He had to control the aeroplane to make pilot-coordinated gesticulatory movements to mimic culturally recognised signals and gestures. During the summer of 1917, the basic rules of flying in formation began to be worked out as pilots had to negotiate their haptic world with precision to avoid contact with another aeroplane within the formation. This was not easy, for if the:

engine develops a sudden increase of revolutions, and the pilot finds himself overhauling the craft in front; he throttles back and finds himself being overhauled by the craft behind; a slight deviation from the course and the craft all round seem to be swinging sideways or upwards. Not till a pilot can fly his bus unconsciously does he keep place without repeated reference to the throttle and instrument board (Bott 1976 [1916]: 18).

In addition, there was no radio telephone and successful formation flying was achieved through the use of pre-agreed signals. Such signals could be in the form of physical gestures made by the pilot, controlling the aircraft in a particular manner, or by firing coloured Verey lights,⁵⁰ different colours conveying varying messages of manoeuvre intent as they 'structure knowledge ... [and] affect ways of being' (Young 2006: 174). The use of coloured Verey lights characterises the air world in terms of communication and the 'agency' (Gell 1998: 16) of colour is used to cause a sense of movement as the pursuing aviators comply with the colour code to perform the correct haptic response required to remain in formation. Such actions signified 'sensation as an element of knowledge' (Merleau-Ponty (2002 [1958]: 15). One aviator remembered flying in a formation of six aircraft in the form of a very close-knit triangle using a specific set of agreed signals to communicate with the pilots flying the other aeroplanes:

If Nigger [nickname of pilot] is going to turn sharp, he drops his wing on that side. If he is going to dive steep, he holds up his arm, if he wants us to come up close or wants to call our attention to something he shakes his wings. If it's a Hun, he shakes his wings and points and fires his guns. If he means yes he bobs his nose up and down and if he means no he shakes his wings. If we see a Hun and he doesn't, we fire our guns and fly up in front and point. We fly at three-quarters throttle so we can always pull up. If he has trouble and wants to go on, he fires a red light from his Verey pistol. If he wants us to follow him out of a fight, he fires a white light. If he wants to signal the other flights, he fires a green light (White Springs 1966 [1927]: 97–98).

It was vital that a scout patrol maintained a strong formation tightly focused and responsive to the movements of its leader who was responsible for manoeuvring the flight; when the leader decided to turn, all the other pilots in the formation had to manoeuvre their aeroplanes accordingly, for example:

a turn to the right would be signalled by rocking the machine from side to side and then dropping a wing down to the right and commencing the turn. The pilot on the right of the leader would slow their engines and pull their machines up, slowing them as much as possible, while the leader would fly round in a normal manner; those on the left who had to complete the outer and greater circle would put their noses down and go as fast as possible to catch up; thus would a turn be made, and when all were on an even keel after the turn each pilot would close up to his

original distance from his next man. Such a manoeuvre came easily after practice but, to an inexperienced pilot, it was extremely difficult (Compston 2009 [1931]: 85).

In effect, the pilot controls the aeroplane to make pilot-coordinated movements to mimic culturally recognised signals and gestures. In this manner, the aircraft becomes an extension of the human body and is used to communicate meanings and intentions in the air as humans and non-humans seemingly become entangled (Latour 1993: Loc. 565).

Aerial reconnaissance photographs were studied for potential targets. RFC pilot John Davies explains how a further means of communication was developed between the aircraft in the air and artillery batteries on the ground so that the aviators could successfully direct the ranging of the guns (Davies 1987). This added another dimension to the war on the ground. In a curious twist of the senses, aviators became the eyes of the army, enabling those manning artillery on the ground to 'see' beyond their immediate horizon and wage war beyond the infantry's battlefield and thereby extending the scale and nature of conflict landscape. As aviators sometimes operated wirelesses⁵¹ in the air, RFC wireless operators were attached to gun batteries on the ground to enable aviators to communicate information to the batteries. But the wireless was not two way and the aviators could not receive messages.

Davies remembers working with the artillery and directing:

where their shoots were falling ... The Battery put out an "L" [in cloth strips] to say they were firing. You picked that up and you went over and watched where their shots were falling ... the aerial photographs were ringed ... A, B, C, and D in which 12 o'clock was the head of the ring, so you sent down the number of the ring and the time 1, 2, 3, so they knew exactly where their shots were falling (Davies 1987).

Observer Eynon Bowen, describes how he was growing accustomed to sending Morse code while in a moving aeroplane:

... I am finding my legs better now and can go on sending wireless with the machine going round on a banked turn, though I must admit that I sent an extra dot when an Archie burst in the neighbourhood (Bowen 1915–1916).

Observers were trained in Morse code to "buzz" at sixteen words per minute. This led to their working at about twelve words per minute in the air' (Copeland Maltby 1915–1916) giving an aura of tactility to speech as hands and fingers substituted for mouths and invisible signals were sent through the invisible air via the tactile pressure exerted by the fingertips. The use of wireless technology hitherto 'extends the reach of the body and

can give ... a sense of experiencing a world apart from the body' (Rodaway 1994: 32) but also, in effect, of unifying both worlds. Evidently both the wireless operator and the aviator became 'distributed persons' as they became instrumental in causing events to happen in areas nowhere near their bodies (Gell 1998: 222). As a 'distributed person' (ibid: 222), an aviator's sent messages enabled the aviators to be 'not just where their bodies were, but in ... different places ... simultaneously' and it is clear that the wirelesses 'were components of their identities as human persons' (Gell 1998: 20–21).

SENSE OF PERCEPTION RE-CONFIGURED

(a) Altering cultural perceptions of time, space, speed, and distance

Flying afforded a new way of moving which altered aviators' cultural perception of time, space, speed, and distance, such cultural aspects providing important analytical frameworks. As lived experience, flying in dangerous conditions distorted an aviator's sense of time.

Movement through the air 'is reduced to sheer mechanical displacement, thereby establishing the possibility of speed' (Ingold 2011: 152). My own experience at 1,000 feet,⁵² certainly resonated with this:

[t]he traffic below appears to be moving slowly on the roads; perception of speed seems to change when looking down from above. I feel like we are flying in slow motion (MW, Field Note Book: Appendix 2).

Sometimes our relationships with moving objects can be disorienting. For instance, flying at 10,000 feet⁵³ 'you have no sensation of speed except for the rush of air past your face' (Gould Lee 1969: 38). It is 'the speed indicator, mounted on the instrument board in front of his knees, alone lets [the pilot] know the difference between 40 and 80 miles' (Maclennan 2009: 59). Thus the pilot is not conscious of those speeds as velocity at height cannot be sensed, only technologically informed, the speed indicator providing information that the senses cannot perceive to distinguish illusion from reality. Evidently, flying an aeroplane during the First World War defined the relationship between humans and technology as '[o]ur bodies and therefore our senses, do not allow us to "escape" from technological mediation – they are themselves mediating apparatuses, without which there can be no knowledge of the world' (Jones 2006a: 2). Technology became a substitute for a pilot's sense of knowing and verification.

On occasion, strong contrary winds affected the forward motion of the aeroplane through the air. Any aircraft returning from a flight over enemy lines normally had the

prevailing wind against it which slowed it down. But when the wind was strong, Second Lieutenant Geoffrey Mayne Hopkins informs us that the ground speed was significantly reduced presenting aviators as 'sitting birds for the anti-aircraft guns' (Hopkins 1972: 48). On trying to land at the aerodrome, Mayne remembers situations when the wind speed was greater than the landing speed and the engine had to be switched on because the 'aeroplane was flying backwards, relative to the ground' (ibid). The verdict of the case of nature *versus* technology is a confusion of the senses for nothing is more disorientating for a pilot than to think he is moving forward when, in fact, he is moving backwards.

The natural agency of wind-driven cloud, rain, snow, and sleet effected movement too and MacCarron describes flying a reconnaissance mission whilst it was snowing:

There was a most 'orrible drift on, and we took an awful long time to get to Armentieres. Then I gave up and drifted away over Lille, to do that side. I wanted to get away up to Menin, and around that side, but we were taking too long, we should never have got there. Coming home I had to steer due north to get West [an example of "drift"] (MaCarron 2006: 84–85).

On the Western Front, aeroplanes and their aviators were targets for machine guns and high explosives. Pilots soon learned to recognise the strange noise of anti-aircraft shells (Archie) for a burst nearby 'sounds like a loud cough' (White Springs 1966 [1927]: 103) and it was known that the bursts you could hear would not harm you but it did inform the pilot that the gun battery had him within range and the next one would be closer. This sonic news triggered his perceptual haptic responses to manoeuvre the aeroplane in a zig-zag pattern to make it difficult for a German gunner to keep him within range and causing him to fire where the pilot should have been had he not taken evasive action. It is calculated that:

[t]he best thing to do is to change your course twenty degrees every twelve seconds. That gives you time to get out of the way of the one that's coming up at you that moment and doesn't give the gunners time to get your deflection for the next shot (White Springs 1966 [1927]: 103).

Manoeuvring in this way was like a performance with timed movements and rhythms; it was like dancing in the air. It was pilot skill and calculation in terms of timing and moving through the air that avoided being in the air space where a German gunner calculated he would be. Lewis (1964: vii) calculated that he could fly a distance of 400 yards⁵⁴ between the time an anti-aircraft shell was fired and the moment it burst. The pilots learned that

the gun bursts to be avoided at all costs could not be heard, only seen, as they appeared 'silently like puff balls in the sky' (ibid) as they learned, in effect, to visually measure distance.

The German gunner on the ground and the pilot in the air were each trying to outguess and outmanoeuvre the other by playing with perceptions of time, space, and distance. This novel situation revolutionised human experiences of, and adaptation to, this new technologically created sensorial realm.

The Aldis collimation sight⁵⁵ was used to estimate the distance to the target to inform the pilot or observer when a shot could be taken. Some pilots did not like them though and had them removed from their aeroplanes. It was removed from William Barker's Sopwith Camel B6313 (Ralph 1999: 81). Barker had a personalised means of lining up targets when shooting his Vickers machine gun. He attached a model of a red-painted devil-like creature with horns to his right-hand Vickers gun where the ring-and-bead foresight would usually have been, using the horns as a guide (figure 14). Three other pilots are known to have done this (Kemp 2000: 150).



Figure 14: Red devil mascot. This red devil belonged to pilot Frank Bowles (© and courtesy of *Cross & Cockade International*).

The model was originally used as a car radiator ornament or mascot (Kemp 2000: 148).⁵⁶ Such a primitive gunsight was in keeping with his instinctive shooting technique (Ralph 1999: 81–82).

The red devil is making the gesture of thumbing his nose. Such a gesture was well-known in Britain, France, Belgium and Italy at the time (Morris et al 1981: 219–220). The

gesture of putting the thumb to the nose dates back to circa. 1903 and was used as a gesture of mockery (ibid: 30). The German flying ace, von Richthofen, flew a red aeroplane known as the Red Devil so the model could, perhaps, be intended to ridicule him, threatening that Barker was alert and looking for the enemy.

(b) Spatial disorientation: confusing the senses

Lieutenant Leslie Bickel (1972) once lost all sense of direction while flying in cloud and experienced great difficulty in finding his way back to his squadron at the aerodrome at Izel-le-Hameau, near Arras. He was advised to learn and recognise the shape of all the forests when looked at from the air as a means of orientating himself. Bickel sketched maps while in the aircraft, annotating them with such forest details for future reference (figure 15).

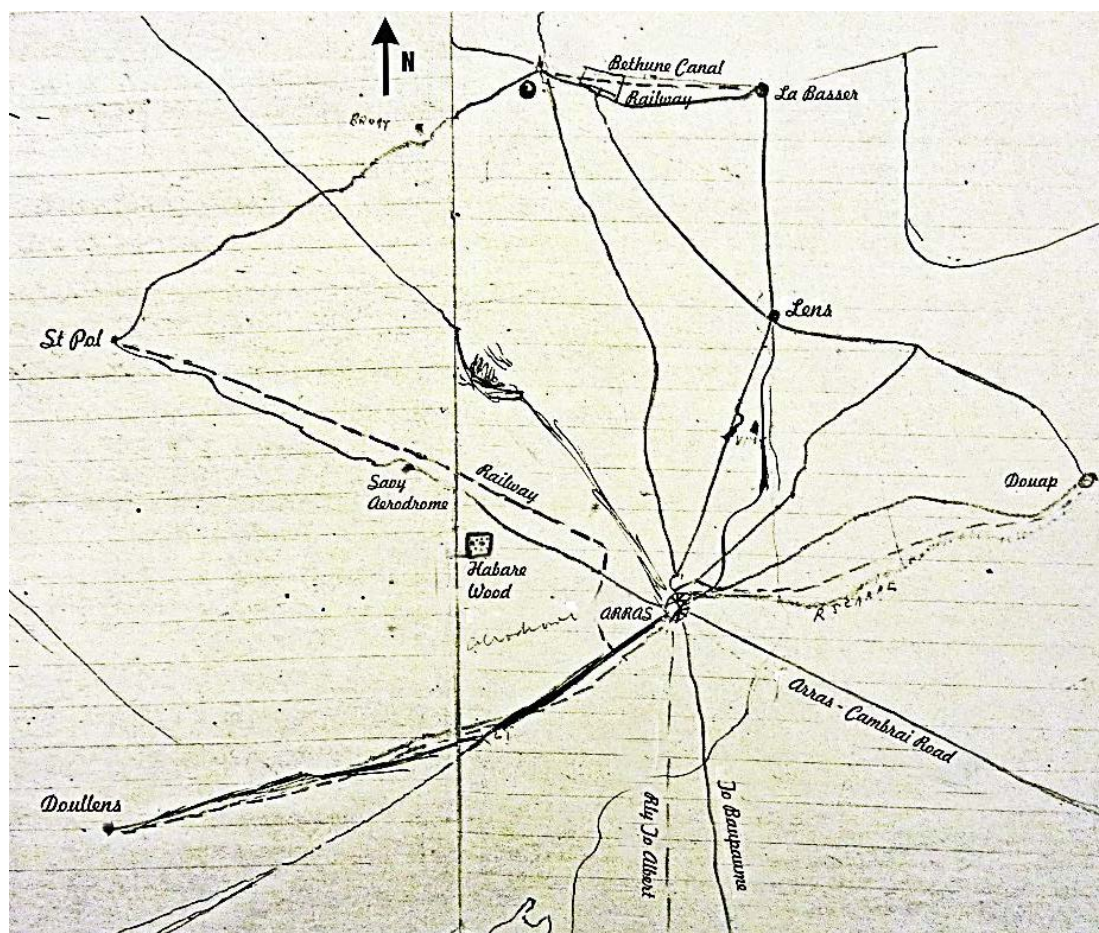


Figure 15: Habare Wood can be seen marked as being square-shaped on the centre of this map sketched by pilot Leslie Bickel (courtesy Liddle Collection, AIR 026).

A pilot flies by his visual horizon, maintaining his machine on an even keel by reference to it; an obscured horizon was not good. A pilot had an air-speed indicator and a lateral bubble (which was supposed to tell him if he was on an even keel), and 'the rest was the luck of the game and his native nose' (Lewis 2009 [1936]: 148), for:

in a cloud there is no horizon, nothing above, below, in front, behind, but thick white mist, and many a man has fallen out of the clouds in a spin through losing his head and, without knowing it, standing his machine on its ear (ibid).

Spatial disorientation occurs when a pilot loses visual reference to the natural horizon by, for example, flying into cloud or when flying in restricted visibility and the pilot is unsure of his precise attitude in space, or where is 'up' and 'down'. His sensory image of being in the air is, accordingly, false. It has been established that 'feelings of tilting and turning are dangerously unreliable indicators of the true state of affairs' because 'at small angles of bank the plane's change of direction and position went unnoticed much of the time' (Geldard 1953: 266). Getting lost could give rise to feelings of panic, rendering the pilot unable to perform the correct haptic manoeuvres and responses. The compasses of the day were unreliable because the vibration of the aircraft affected them. On performing a couple of turns, a pilot could easily lose his sense of direction and become disoriented as:

North, south, east, or west might be anywhere. The sharp turn sets the compass spinning. Within a minute you grew quite bewildered. There was only one thing to do: keep your head, choose a distant landmark and fly on it, give your compass time to settle, and then try to pick up unmistakable landmarks – lakes, towns, or important railway junctions – and fit them to your map. It was easier high up than low down (Lewis 2009 [1936]: 55).

Thus orientation involves bodily movement to look down and up, picking out landmarks on the ground and then refocusing on a map of the area to find the same landmarks to make far become near.

Disorientation could be so severe that sometimes the pilots did not know whether they were flying upside down. Lieutenant Colonel Strange (1955 [1933]: 80) recalls returning from a dawn reconnaissance over enemy lines when a black snowstorm, 20,000 feet⁵⁷ high, swept in. He was quickly surrounded by pitch blackness 'in which the bumps were terrific' (ibid) and it was difficult to control the aeroplane. But the body is physically connected to the aeroplane and, working in unison with it, sensation becomes a 'communion, or coexistence between body and thing' (Tilley 2004: 10) and the body continually improvises 'its relationship with things [because it is] constantly opening out itself to the world as it moves in it' (ibid). If a pilot becomes disoriented, for example, through poor visibility in inclement weather, he uses the sound of the wind on the aeroplane and the feel of the wind on his face to orchestrate his haptic responses as hearing and feeling have substituted for sight:

I just took advantage of every chance opportunity allowed me by the elements; when the wires screamed throttled back,⁵⁸ and when I encountered momentary lull I pushed the stick forward. Sometimes I felt as though I was sitting on air, while all the weight of my body was thrown on to my belt;⁵⁹ then I could do nothing, but try to think out how best to roll the machine the right way up. When I side-slipped,⁶⁰ the fact was indicated to me by the howling draught on the side of my face (Strange 1955 [1933]: 81–82).

As Strange's aircraft lost height, he continued to be disorientated and:

throttled right down and waited for the ground to show up through the whirl of snow, although I did not know at what angle above or below me it would appear, because for all I knew I might be flying sideways or upside down. Suddenly it got quite light, and I saw snowflakes all around me. Then a church spire, upside down, hove into sight just over my top left-hand wing-tip. My instinct told me to put it the right side up, and somehow I managed to do it. The church spire flicked out of sight and then appeared on my right in a more reasonable attitude (Strange 1955 [1933]: 81–82).

Strange successfully learned how to interact with the aeroplane in adverse conditions that restricted his vision and to trust his bodily instincts and his understanding of the elements to instigate the correct haptic judgments to facilitate safe landing.

CONCLUDING COMMENTS

It is an aviator's reaction to both events and physical conditions that are made through knowledge, skill, and experience that determine the sensory experience of an aviator, and to some extent, whether he dies or survives. A dividing barrier exists in the aviator's haptic air world separating the experienced pilots from the novice pilots, as well as those who would survive and those who would not. As the aviators negotiated being in a First World War air world, death was a possibility at any time. As they endured this state of 'unstructured liminality' (Turner 1995: ix), the aviators, as 'liminal entities', were indeed 'betwixt and between' (Turner 1995: 95).

CASE STUDY 2

MATTERS OF FEAR AND ANXIETY: LUCKY MASCOTS

INTRODUCTION

This case study develops the previous chapter's assessment of touch by focusing on the metaphorical aspect of pilots' emotions in the form of fear and anxiety. It aims to reveal an emotional dimension of a haptic conflict air-scape in terms of how airmen channelled these fears and anxieties when flying in combat. It explores how strategies for managing stress and hoped-for survival are reified in the form of rituals, omens, and objects (DeMarrais et al 1996). It reveals how these strategies were materialised particularly in lucky mascots – inanimate objects vivified by the aviator's instinct to survive. Aviators' writings (published and unpublished), museum collections, and photograph archives were assessed to demonstrate that the concept of air-scape relates not only to being in the air, but also to being on the ground as 'up' and 'down' merged in a dialectical relationship.

To add analytical precision to this process, a classification of aviators' lucky mascots has been produced, and which also fills a gap in the literature.

An integral part of the concept of 'conflict air-scape' which has been developed here involves the material dimension of coping with new and dangerous uncertainty through the making/acquisition and ritualised manipulation of talismanic objects. As aviators created their social world, they introduced superstition and ritual as a means of restructuring their experiences in order to cope with new fears and anxieties. This chapter therefore describes how the physical, spiritual, and superstitious relationships between First World War aviators, aeroplanes, and the 'new' haptic world of flying became materialised in lucky mascots. Examples of each category of airmen's mascots are provided as a means of making sense of the combat air-scape.

I saw Springs the other day in Boulogne. He said his girl at home sent him a pair of ... Nénette and Rintintin luck charms. Since then he's lost five men, been shot down twice himself, lost all his money at blackjack and only gotten one Hun. He says he judges from that that she is unfaithful to him. So he has discarded them and says he is looking for a new charm and that the best one is a garter taken from the left leg of a virgin in the

dark of the moon. I know they are lucky but I'd be afraid to risk one. Something might happen to her and then you'd be killed [for] sure. A stocking to tie over my nose and a Colombian half dollar and that last sixpence and a piece of my first crash seem to take care of me all right, though I am not superstitious (White Springs 1966 [1927]: 166).

It is estimated that at least three-quarters of First World War airmen carried some kind of lucky mascot (Dunn 1941: 2) indicating that they were superstitious, at least to a degree.⁶¹ The existence of mascots is driven by the human instinct to survive at all costs as the aviator confronted his mortality on a daily basis – not only from the enemy but the likelihood that his flimsy aircraft would break up in the sky sending him plummeting to certain death. Aircrew were aware of the odds of them dying, and trainee pilot Frederick Ortweiler wondered 'how long it will take for [him] to get the wind up' (Ortweiler 1917), recording in his diary, 14 March 1917, 'Cheery news today in Parliament; 20% are killed in 6 weeks. We're all doomed' (ibid).

Gould Lee was a pallbearer at many funerals when he was learning to fly at Filton, near Bristol. Casualties were buried in a coffin and there was a padre in attendance at the funeral during which the *Last Post*⁶² was regularly played, 'about once a week' (1969: 40) as a mark of respect for the dead (cf. Van Gennep 1960 [1909]). Its sound resonated throughout surrounding areas for all to hear and to know what was happening, for, as Walter Ong observes, where sight isolates, sound incorporates (1982: 72). Such funereal frequency caused Gould Lee to think that he had grown hardened to the death of his peers; that is until he acted as pallbearer at the funeral of a young aviator at La Gorgue cemetery on the Western Front to which no padre was in attendance, and no *Last Post* played, which he describes as being a 'depressing business' for his friend was not in a coffin but:

sewn up in canvas, placed on a wide plank, and covered with the Union Jack. We could feel the corpse, cold, rigid, when we took him to the graveside from the trailer. It gave me quite a turn, and the others too, in fact, one of them, a very young pilot, Asher, fainted and clobbered to the ground (Gould Lee 1969: 40).

Gould clearly remembers his friend's funeral and such emotions are integral aspects of human cognition (Turner 1988: 156–178) as aviators sensed that they could be the next to die.

CATEGORIES OF AVIATORS' LUCKY MASCOTS

Not many First World War aviation-related charms and lucky mascots have found their way into museum exhibits and those that have seem to have become alienated from their human stories. For example, the National Museum of Wales holds forty First World War lucky mascots in its archives that were donated by folklorist and mascot collector, Edward Lovett in 1918 ('National Museum of Wales' website). Only one of these mascots is connected to aeroplanes and aviators and, as can be seen from the typed label that accompanies it, very little is known about it (figure 16).



Figure 16: Trench art aeroplane mascot
(<https://www.peoplescollection.wales/items/414528>).

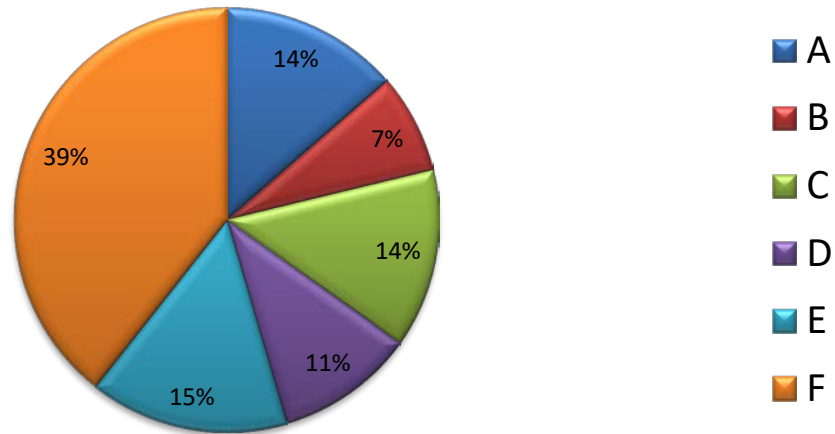
It is important that we find means of researching objects beyond being exhibited or stored away in a museum.

On tracking down examples of lucky mascots in museums, in photographs, on the internet, as mentions in books and newspaper articles, it was apparent that there were many different types of aviator-related mascots. Categorisation by type is intended to apportion value, meaning, and significance to the lucky mascots (Table 2 and Chart 1).

Table 2: Aviators' lucky mascots, omens, sayings and rituals: categories of superstition.

CATEGORY	EXAMPLES	COMMENTS
<p>A. Commercially made, sold as a lucky charm</p>	<p>Small metal charm of aeroplane; Fums Up! charm; Nénette and Rintintin charms; charm in the guise of something traditionally associated with good luck, e.g. cat, boomerang, Fums Up! doll.</p>	<p>Popular mass produced trinket. Given as a gift to wish recipient 'Good Luck'.</p>
<p>B. Charms with religious significance</p>	<p>St. Christopher; prayer chain; crucifix inside leather case worn over heart; thumb-size copy of 91st Psalm.</p>	<p>(i) either given to aviator; or (ii) chosen by aviator.</p>
<p>C. Lucky pocket pieces, often with survival story</p>	<p>A piece of shrapnel from a crash which the pilot survived; a bullet taken from a wound which the aviator survived; a small piece of trench art made from pieces of a survived crash; something 'souvenired' from an enemy aeroplane that the pilot caused to crash, e.g. a silk hat or helmet from a German aviator (war trophy).</p>	<p>An aviator exercised his own agency, for example in re-labelling a bullet that had hit him but not killed him as a lucky pocket piece to signify his survival.</p>
<p>D. Lucky sayings, omens and rituals</p>	<p>Lucky sayings, e.g. 'touch wood'; lucky way of saying 'au revoir', particularly by Americans – 'see you in hell'. Interpreting omens, e.g. behaviour of cigarette smoke; numbers. Bodily ritual, e.g. turn clockwise three times before climbing into aeroplane.</p>	<p>Such superstitions derived: (i) from folklore; or (ii) the aviator invented it. Often the belief in something particular was of a personal nature. Such superstitions may have an anthropological interpretation.</p>
<p>E. Objects traditionally associated with good luck in folklore</p>	<p>Lucky heather, particularly white; 4-leaf clover; image of cat painted on aeroplane for good luck; toy in the guise of something traditionally associated with good luck, e.g. cat.</p>	<p>(i) Often given as a gift to wish good luck from mother, sweetheart; or (ii) pilot decided which folklore to adopt.</p>
<p>F. Personal object infused with special/intimate meaning, personal to the aviator</p>	<p>Small toy from a friend, e.g. teddy bear; photo of someone special; glass dog from Christmas cracker; miniature crocheted woollen baby's booties; pocket edition of the <i>Happy warrior</i>; a favourite item of clothing that the pilot would never dream of flying without.</p>	<p>Such items were either: (i) personal to the aviator in that he already owned it and he decided it would bring him good luck; or (ii) had special personal meaning, perhaps memories, given as a gift to the pilot for luck.</p>

Chart 1
First World War Aviators:
Categories of Superstition



KEY

- A Commercially made, sold as a lucky charm.
- B Charms with religious significance.
- C Lucky pocket pieces, often with survival story.
- D Lucky sayings, omens and rituals.
- E Objects traditionally associated with good luck in folklore.
- F Personal object infused with special/intimate meaning, personal to the aviator.

My classification of aviators' lucky mascots was influenced by 'social history' and 'cultural history', detailed in Chapter 2 Literature Review. E.S. Turner (1980: 138) reveals how war stimulated trade in talismans, an indication that a category entitled 'commercially made, sold as lucky charm' was required (Category A). Becker (1998: 96–103) provides insight into religion and lucky mascots which led to the category entitled 'charm with religious significance' (Category B). Additionally, it was evident from the aviators' texts that it was common to keep a piece of something connected to a crash they had survived, hence a category entitled 'lucky pocket piece, often with survival story' (Category C). Fussell (2000 [1975]: 124) notes that luck depended not on what mascot a person carried but on what action a person did or did not do and it became clear that a category entitled 'lucky sayings, omens and rituals' was justified (Category D). Hill (2007: 78) notes that some of the First World War mascots in the Lovett Collection, held by the Wellcome Historical Medical Museum, consisted of particular forms that related to certain established superstitions, e.g. brooches formed in the shape of a black cat – in folklore the black cat is deemed to be lucky⁶³ – and this led to the category entitled 'objects traditionally

associated with good luck in folklore' (Category E). Finally, Chambers (2004) acknowledges the variety in the range of lucky mascots and beliefs, and it was apparent that aviators often afforded their own meanings to objects that held special significance to them, and so the category 'personal objects infused with special/intimate meaning, personal to the aviator' (Category F) was regarded an important addition to the list.

(a) Defining a mascot

It is evident that: '[f]rom the earliest dawn of man's intelligence he has believed that round him the forces of good and ill fight a constant battle, and it is in this universal faith can be found the reason why mascots have been credited with power' (Villiers 1929: 5). Originally all mascots had a religious significance; they were not worn for their own powers but in the hope that they might attract the spiritual influences that would prove beneficial to their wearers, or at least would repel or combat evil (ibid).

A mascot can be 'a person, animal, or object that is supposed to bring good luck' (Waite 2012 [1979]: 444) and may include lucky pieces such as amulets, talismans and charms (Villiers 1929: 1; Paine 2004: 10) 'as an imagined preservative against sickness or other evils' (Sharper Knowlson 2008 [1890]: 126). There is no essential difference between an amulet, talisman or charm (ibid; Villiers 1929: 1) and there is often 'some overlap in the meaning of the three words' which 'are often used indiscriminately' (Paine 2004: 10). But to be a little more precise, an amulet is a device that is worn for protection by magical means where a charm is an object that is perceived to bring good luck, health and happiness although it might also protect from bad luck but protection is not its primary function. A talisman, on the other hand, is something thought to hold a magic property which can both protect and radiate power (ibid).

Many RFC squadrons had a living squadron animal/human mascot as an emblem of that unit. Individual aviators also kept pets. Unless such mascots were deemed by the owner or owners as 'luck bringing' (Wright and Lovett 1908: 289), they are not lucky mascots and do not fit into the categories of lucky mascots I have devised. For that reason, such mascots have not been included within the remit of this research, though they are, nevertheless an important area of study.⁶⁴

(b) Lucky mascots at the beginning of the twentieth century

At the beginning of the twentieth century there was a revival in the belief in luck and protective amulets as well as lucky pocket pieces, particularly amongst people 'engaged in risky occupations' (Wright and Lovett 1908: 288), such as First World War aviators.

Charms in the form of horseshoes, four-leaved clovers and pigs, for example, were very fashionable representing a 'half-belief' that they would bring good luck or reflect ill-luck (Sharper Knowlson 2008 [1890]: 127). At this time, the word 'mascot'⁶⁵ seemed to be more popular than the word 'amulet' or even 'talisman' (Wright and Lovett 1908: 288). It is clear that such devotion to belief in the so-called protective 'powers' of mascots carried on into the First World War as aviators and their families hoped that such things could hold magical powers that attracted luck, promised protection or ensured safety to men serving on the Western Front.

Information about charms and how to use them was widely available. In 1907, author George Bratley advised that a charm should be used intelligently and, if seeking luck, the wearer must not just rely on the charm itself but must play his part in order to bring about the desired results, for example a pilot should practise flying his aeroplane and changing the drum on his machine gun:

The Vickers has a belt of four hundred rounds and the Lewis has a drum of one hundred and we carry three spare drums. To change drums you have to pull the gun down on the track with your hand and then take off the empty drum and put on the full one. It's not hard to do unless you let the wind get against the flat side of the drum, then it will nearly break your wrist. We've practised changing until we can do it in our sleep (White Springs 1966 [1927]: 83).

Bratley even proffered advice on how to use a charm, writing '[h]old it between the finger and thumb and gaze at it steadily or if in the dark simply hold it. Concentrate your thoughts on your highest ideal, and contemplate faithfully the conditions which you desire' (Bratley 1907: 146). Bratley suggested that such quiet meditation should be performed on a daily basis in order to attract courage, faith, and strength (ibid).

DECONSTRUCTING THE SURREAL WORLD OF THE AVIATOR

Imagine a surreal world of men ruled by superstition. In this world were good omens and bad omens as men participated in rituals as a means of encouraging and attracting good fortune. Their families lived elsewhere but they sent their men lucky mascots. The men painted black cats on aeroplanes with huge wingspans they flew at night. Their world was frightening and unpredictable and they had a precise set of unwritten instructions for survival. They believed that misery would befall them if they did not follow the rules and forgot to take their protective mascots with them. The following systematically unravels this world as it explores how superstition was turned into actual physical and tangible

reality in the form of rituals, omens and objects, illustrating how ideas, beliefs and emotions are afforded tangible forms (DeMarrais et al 2004: 1).

(a) Category (A): Commercially made, sold as a lucky charm

Industrial warfare stimulated a consumer industry as commercially made charms were made to be given to aviators as a gift to wish 'good luck' as manufacturers sought to make a profit from the commercialisation of superstition by war. Commercial advertisers in journals and periodicals relied on the public's 'belief in "luck" and in obtaining it by things said or done or worn' (Wright and Lovett 1908: 288). The following gives examples of commercially made charms.

(i) Kewpie dolls and Fum's up! charms

The poet and artist Rose O'Neill drew pictures of Cupid-like figures called Kewpie dolls which first appeared in magazine illustrations in 1909⁶⁶ and were later patented in 1913 by the German manufacturing company J.D. Kestner of Waltershausen ('Victoria and Albert Museum' website) (figure 17).



Figure 17: Kewpie doll, jointed at the shoulders to enable movement of the arms with painted facial features. Note the 'Kewpie Germany' inside a red heart. Height 12cm.
(© Victoria and Albert Museum, London).

The name Kewpie derives from their resemblance to the naked babies known as cupids, after Cupid the Roman god of Love. Over the next few years, the Kewpies grew in

popularity; books and accessories were introduced including, soap dishes and salt and pepper shakers. The Kewpie dolls were manufactured in Germany but were later made in Belgium and France after the outbreak of the First World War. The Kewpie doll is one of the earliest examples of mass manufacturing ('Victoria and Albert Museum' website).

Raphael Tuck & Sons was one of the earliest postcard publishers, introducing the Oilette Series of paintings on postcards – where the surface was designed to appear as a miniature painting – in 1903. The company had been established by Jewish Prussian husband and wife immigrants, Raphael and Ernestine Tuck. Raphael Tuck died in 1900 but the business was carried on by his sons who made postcards a very popular means of communication ('Tuck DB Postcards' website). Raphael Tuck & Sons was talented in recognising and responding to the country's mood and fashions and, in response to people's evident interest in luck and the popularity of the Kewpie dolls, and because the First World War was now raging and feelings of patriotism running high, it published the Fums' Up! postcard so that people could send each other good luck. Unfortunately, on 29 December 1940, its headquarters were bombed and 74 years' worth of archives in the form of over 40,000 original pictures and photographs were destroyed but this is an example of one of its Fum's Up! postcards (figures 18 and 19).

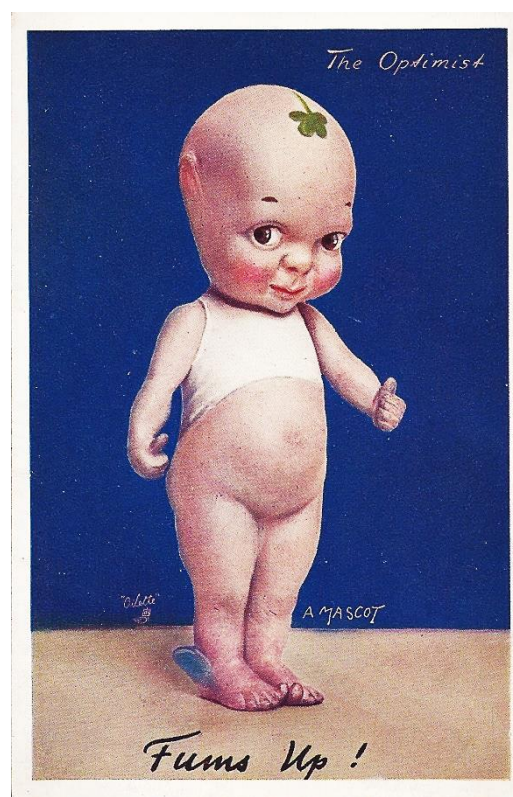


Figure 18: Postcard from the Fum's Up! set, Oilette Series Postcard No. 8792A. This postcard is entitled 'The Optimist'. First date used 28 June 1915) (author's postcard).

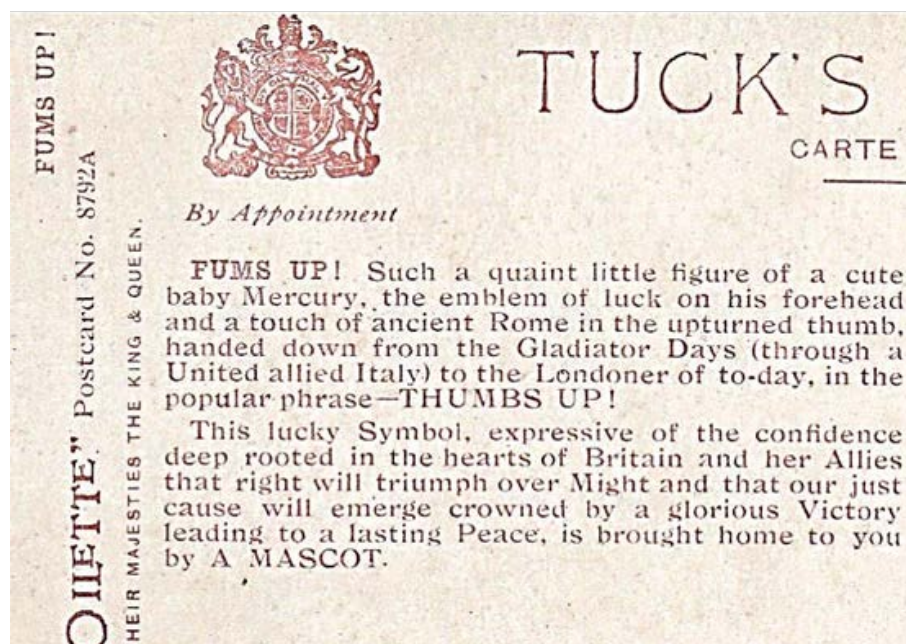


Figure 19: Verso of the postcard describing FUMS UP! From the Fum's Up! set, Oilette Series Postcard No. 8792A (author's postcard).

We use our body to make meaningful gestures of communication and our body biologically emits signs and signals as to its well-being (Winterton 2012b: 237). The phrase 'thumbs up' was a popular saying at the turn of the twentieth century, an upturned thumb signifying encouragement to do one's best in order for events to turn out successfully (Villiers 1929: 161). The name 'Fum's Up!' is a take on the gesticulatory action of 'thumbs up', attributing the gesture to the action of a Roman Emperor as to whether a gladiator lives or dies, the position of the thumb, either up or down, being a matter of life or death respectively – although historians disagree with this for thumbs up may have meant an unpleasant insult and it was thumbs down that signified a pleasant form of approval (Morris et al 1981: 191). But this is what the publisher of the postcards believed at the time, whether mistakenly or not. It is therefore a legacy of ancient materiality, linking actions from the ancient world with objects of the First World War and thereby shaping human experience (Meskell 2005: 50).

Due to the popularity of these postcards, three-dimensional style metal figures were commercially mass-produced, some with wooden heads, for touching, to bring good luck.⁶⁷ The purchaser would send such figurines to their loved ones serving on the Western Front and many of them found their way into the pockets of RFC aviators (figure 20).



Figure 20: Fum's Up! charm (© Australian War Memorial REL33983).

Pilot Vernon Castle wrote in a letter to his wife, 'Your letter ... received this morning. Thank you ever so much, Sweetheart, it's so good of you. The Kewpie soldier ... I haven't received yet' (Castle 1919: 142). The 'Kewpie soldier' that Castle refers to was probably a Fums Up! charm.

The charms were made by American jewellery company, J.M. Fisher Company of Attelboro, Bristol County, Massachusetts ('iPwish' website). The packaging of the Fum's Up! charm is of particular significance as the charm is placed on cardboard printed with the Union Jack and a 'John Bull'⁶⁸ character, both representing patriotic times and such patriotic themes encouraged people to buy the charm to send to a loved one fighting on the Western Front. A lucky four-leaf clover⁶⁹ was imprinted on the forehead of the charm and the arms were jointed so that they could be raised to touch the wooden head, a design feature to emulate the popular custom of touching wood 'when hopes are expressed, so as not to tempt the fates and bring disappointment' (MacDonagh 1916 : 268). This custom is thought to derive from the ancient Catholic veneration of the True Cross⁷⁰ (ibid). Evidently the overlap between folklore and religious modes of expression was abundant as the superstition of touching wood is combined with the ancient Catholic veneration of the True Cross.

Some of the examples had lucky birthstone eyes that sparkled 'as if always on the alert to see and avert danger' (MacDonagh 1916: 269), just as an aviator would be when flying (figure 21).

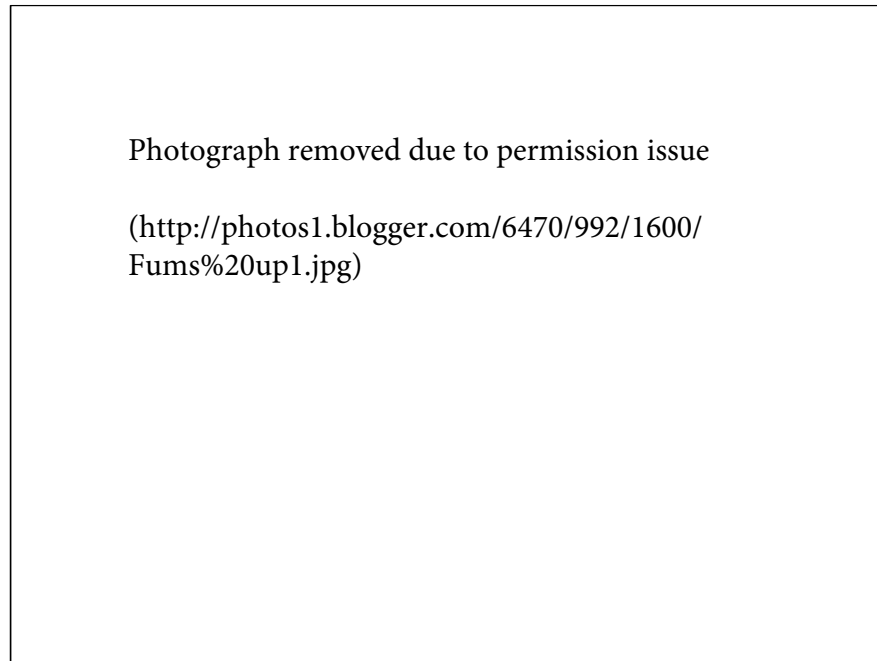


Figure 21: The printed message that accompanied the Fums Up! charm .

Such charms were widely available and advertisements appeared in popular newspapers and magazines (figure 22).

J.C. VICKERY
177 to 183
REGENT ST.
LONDON
W.

*Their Majesties Jewellers,
Silversmiths & Drawing Case
Manufacturers*

**GOOD LUCK
CHARMS**

**Lucky
White
Heather**



No. Y 170.

**Lucky White Heather
Pendant**, 15-ct. Gold and
Whole Pearls, and Gold
Neck Chain, **£2 2s.**
Without Chain, **£1 15s.**
**White Heather Circle
Charm**, 16/6

**What is
Your
Lucky
Number?**



**Vickery's LUCKY NUM-
BER Charms**; any number
supplied quickly in Dia-
monds or plain Gold,

Diamonds ...	£9 2 6
Double Number	£9 12 6
Plain Gold	12/6 & 17/6

**GOOD
LUCK
MASCOT**
(Registered.)



**"FUMSUP!"
for Luck.**

Behold in me
The birth of luck,
Two charms combined—
TOUCHWOOD—FUMSUP
Silver, with Natural Eyes,
2/6, post free, **2/10**; 9-ct.
Gold, **12/6** each; 15-ct.
Gold, **21/-** each; 15-ct. Gold,
with real Gem Eyes, **30/-**

Figure 22: Advertisement displaying three types of good luck charms and mascots (©Illustrated London News Ltd/Mary Evans).

People latched on to the idea of buying such charms to send good luck to their loved ones fighting on the Western Front. Perhaps the act of paying for a charm gave it more potency.

Air Mechanic Henry James Marston, of No. 3 Squadron, Australian Flying Corps, was particularly superstitious for he wore a bracelet comprising an identity tag with three commercially made lucky charms attached – a returning boomerang, a Fum's Up! charm, and a black cat (figure 23).



Figure 23: Air Mechanic Henry James Marston's aluminium identity disc with three lucky charms (© Australian War Memorial REL33983).

The identity tag personalises the three charms and bears Marston's name as well as his mother's name and address on the back. Perhaps his mother gave it to him to ensure his safe return to her. The boomerang, firmly established in popular perception as an Australian icon is in the shape of a 'returning' boomerang⁷¹ and is engraved with the words 'I go to Return' clearly stating his hope to survive the war and return home to Australia. Every time Marston moved his wrist, he would have been aware of the charms, feeling the cold metal on his skin and, perhaps, was reminded of his faraway home, endowing geographic space and distance with meaning and highlighting relational associations (Helms 1988: 8–9). The charms, worn round Marston's wrist, are imbued with his wartime experiences.

Fate appears to have been on Marston's side for he narrowly escaped being hit by an aeroplane that crash landed and exploded at the squadron's aerodrome close to

where he was standing. He survived the war and returned to Australia in June 1919. He travelled home on board the transport ship *Kaiser-i-Hind* ('AWM' website: Marston). The bracelet of charms is now exhibited at the Australian War Memorial although now it is just an item in a glass display case for it has lost its significance and meaning as a lucky charm and has become a museum exhibit instead – an addition to its 'social life' (Appadurai 1986a: 5).

(ii) Nénette and Rintintin

Illustrator, Francisque Poulbot, created drawings of two Paris street children, a girl and a boy, naming them Nénette (boy) and Rintintin (girl). The drawings were then used to design two dolls which the manufacturers intended to replace the dolls sold in French shops that were made in Germany – signifying an act of patriotism. The dolls were especially popular before the outbreak of war but production initially slowed at the outbreak of hostilities. However, the characters were revived during the war in a book entitled *Encores des Gosses et des Bonhommes: cent dessins et l'histoire de Nénette et Rintintin* (Poulbot 1917) (figure 24).

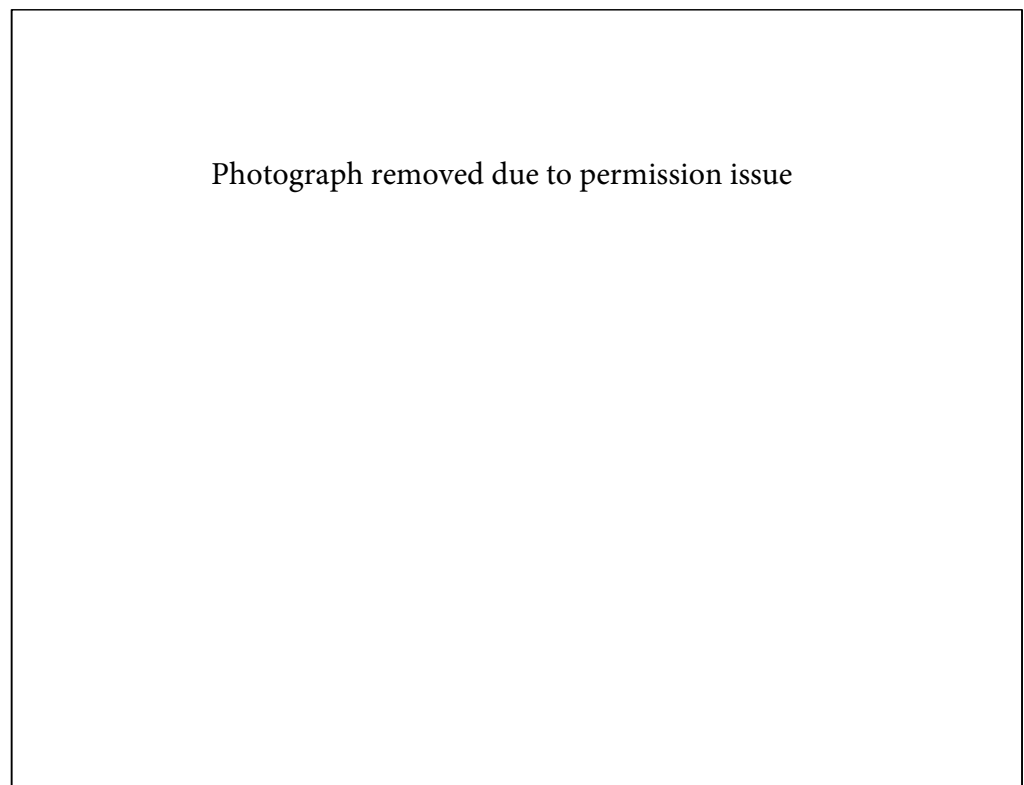


Figure 24: Sketch by Francisque Poulbot detailing a street child playing with Nénette and Rintintin charms (Poulbot 1917).

Nénette and Rintintin were associated with luck:

Everyone loves and adores us. You can find us amongst the finest amulets, the hand of Fatima, four-leaved clover, golden pigs, scarab beetles, the number 13, and white elephants ... We are the fashionable good-luck-charm which protects Parisiennes against the Gotha bombs and the big canon's shells! ... we triumph over bad luck ... Place us round your neck, on your watch chain, on your bracelet, in your pocket, on your car's windshield. With us you will never become ill, never get killed ... Touch wood! (Poulbot 1917). [Translated by author.]

They were charms made from scraps of yarn that were believed to provide protection against the German Gotha⁷² air raids on Paris. The dolls were joined together and had to remain attached to retain their protective powers. Nénette and Rintintin were characterised as an adult couple, sometimes with a baby, who survived the Gotha attacks and bombardments. Very quickly, small wool versions of the dolls were created, purchased and given to soldiers and airmen on the Western Front as good luck charms (figure 25).



Figure 25: Example of Nénette, Rintintin, and a baby. Made of white and pale pink wool, joined together with a line of wool. Height: 50mm. Width: 30mm (© IWM (EPH 004664)).

The Nénette and Rintintin charms were pinned upon clothes or attached to hats, or even sent home to the United Kingdom as souvenirs.

The RAF Museum Hendon archives hold twenty letters from Eric Randall Lloyd Sproule to his mother covering the entire period of his service and captivity, from 1 January 1917 to 4 December 1918, including a letter and small fabric charm of the characters Nénette and Rintintin. Eric wrote in a letter:

My dearest Mother ... I enclose for you what is all the rage in France at the moment, everyone has got these, they are called "Nénette" and "Rintintin" and they originated in Paris as a charm against the "Gothas" and the bombardment. Keep them as a souvenir. Love to all ... Ever your loving son, Eric xxxx (Lloyd Sproule 1917–1918).

Eric did not use the charm for himself, for it was only considered lucky if given as a gift. Eric chose to send it to his mother as a souvenir as he witnessed the charms fuelling the French citizens' superstition. Eric is giving an intimate part of himself to his mother, an embodiment of his personal off-duty time during which he purchased the charm. The letter would have been written during a quiet time as he reflected on his day and wrote to his mother. No doubt, from time to time, Eric's mother carefully removed his letters from the envelopes, re-read them and touched the Nénette and Rintintin charm as she thought of her son.

(b) Category (B): Charms with religious significance

Prayer books and copies of the *New Testament* became very popular after reports that such religious works had stopped machine gun bullets (Dunn 1941: 2), shaping airmen's attitude to spirituality and well-being. Henry Allingham⁷³ carried a Bible which had been given to him by his wife, Dorothy. On the inside cover, she wrote, 'May the Lord watch between thee and me while we are absent from one another. With all my fondest love and very best wishes for your welfare. Dorothy' (Allingham 2009: 101). Dorothy placed pressed flowers between the pages which evidently brought great comfort to him during the years of the war. The Bible and the dead flowers survived with him, becoming treasured heirlooms to the family after his death in 2009 (ibid).

American pilot, Captain Eddie Rickenbacker, of the 94th Aero Squadron, wore a crucifix inside a leather case, placed over his heart (Lawson et al 1996: 147–148). Though it was hidden from general view, Rickenbacker was clearly aware of it as he flew on missions and, perhaps, would be comforted by its felt presence and by the thought that it was probably given to him by a loved one in America, a place he would hope to return to safely.

An amulet is carried for protection (Paine 2004: 10). Saint Christopher⁷⁴ is the patron saint of travellers and the wearing of his image is a declaration of faith and belief. This St. Christopher (figures 26 and 27) was worn by an unknown aviator in the United States Army Air Service (USAAS), perhaps around his neck or attached to his goggle straps or flying helmet.



Figure 26: Front side of First World War USAAS pilot's religious charm. Made from sterling silver with small enamelled areas in red and white representing the USAAS pilot wings. The charm depicts St. Christopher above the pilot wings. Made by medallist and jeweller W.O. Lewis, Howard Works, Birmingham, established 1832 and still owned and operated by the same family (© author).



Figure 27: Rear side of First World War USAAS pilot's religious charm (© author).

This particular amulet bears an engraved message: 'I am a Catholic, in case of an accident notify a priest'. Evidently, the aviator's religious faith was of importance to him and, in the event of being shot down, the inscription is directing that the correct religious authority should be notified. But in reality this would not happen and a religious man of any denomination may have attended, if at all, on account of there being too many deaths to deal with.

Vernon Castle wrote to his wife, 'I've got your little prayer chained to my neck on the watch chain you gave me last Xmas. I have worn it ever since I received it, and I shall keep it on until I come back to you darling ... 4 June 1916' (Castle 1919: 134). On 16 June 1916, Vernon wrote, 'Your letter prayer is always round my neck. It's getting a little "grubby" now. I can only get a bath twice a week, but that's considered very often here in France' (ibid: 137). Here we get a small snippet of information about life on the Western Front imbuing the letter prayer with embodied experience. On 1 July 1916, Vernon wrote about his flying experience:

... I had my plane hit three times with pieces of shell, and the concussion you get makes you think the machine is blown in half. I don't mind telling you, darling, that I was sick with fright and jolly glad to get back home ... (Castle 1919: 152).

It was common for aviators to carry more than one lucky charm or mascot and religious amulets were mixed with non-religious ones. Castle wrote to his wife, 'Your letter ... received this morning and also a little gold aeroplane. Thank you ever so much, Sweetheart, it's so good of you' (Castle 1919: 142). The aeroplane may have looked like this one (figure 28).



Figure 28: 3-D model of a monoplane in gold-coloured metal, made in 1916 (© IWM (EPH 3471)).

The sight and sound of aeroplanes over the Western Front was commonplace. People heard the engine of the aeroplanes and they could smell the Castrol oil used in some of them. It was not unusual therefore for aeroplanes to be miniaturised as charms. The aeroplane 'charm' above is stored in the archives of the Imperial War Museum, London. It is described as an object that has been made with the intention of being sold as a lucky charm. It is devoid of provenance but the following offers a degree of insight. Of

particular importance is the date, 1916, stamped on the charm's tail plane. This was the year of the Battle of the Somme which lasted from 1 July to 18 November 1916, some 141 days. It is regarded as one of the bloodiest battles of the First World War for one million men were killed and wounded on all sides. The Somme offensive commenced with gas and smoke and a bombardment of unprecedented severity that battered all the senses. Such lucky charms, particularly when date-stamped, can be associated with particular historic dates of importance and are representative of perceived sensorial experiences. Castle flew patrols during the Battle of the Somme, taking many aerial photographs and, writing about one of his flights, described how he was just about to go on patrol and had already started the engine of his aeroplane when he suddenly realised that he was not wearing his prayer round his neck:

Of course I am far too superstitious to go up without it, so I stopped my engine, got out of my machine, and went to my hut where I found it. I was too bundled up and had no time to undress, so I tied it round my wrist. Well, got up in the air about 10,000 feet when I spotted four Huns. Then I was glad I had gone back for my prayer, because I thought to myself "Here's where I get it" (Castle 1919: 88–89).

A dogfight ensued and Castle survived. Castle served on the Western Front for 9 months following which he was sent to Fort Worth, Texas, as a flight training instructor for the RFC. He was killed on 15 February 1918 during a training flight which crashed as Castle attempted to avoid crashing with another aeroplane ('CWGC' website: Castle). His wife, Irene, wrote a book about him incorporating small snatches from his letters addressed to her so that 'his memory might not fade from the minds of the public who in these sad times forget all too easily' and also, so that 'those who loved him might become better acquainted with his experiences and achievements at the Front' (Castle 1919: vii).

Pilot Robert Loraine flew with a thumb-size copy of the *91st Psalm* (Loraine 1938: 216):

He that dwelleth in the secret place of the most High shall abide under the shadow of the Almighty ... Thou shalt not be afraid for the terror by night; nor for the arrow that flieth by day; ... A thousand shall fall at thy side, and ten thousand at thy right hand; but it shall not come nigh thee ... There shall be no evil befall thee ... With long life I will satisfy him, and shew him my salvation ('Bible Gateway' website).⁷⁵

The *91st Psalm* is known as the psalm of protection and Loraine carried it in his breast pocket, thereby testifying to his attitude towards spirituality and well-being. It is not known where his copy of the psalm came from.

Some people saw the war as an opportunity to cheat people and make money. The *Daily Mail* newspaper ran a series of articles in January 1917 exposing such a person, named F. Rawson, who claimed that his magic could 'allay the sufferings of the wounded, the perils of the missing' (Ashton 1917). Rawson's 'magic' was in the form of being paid to say a long-distant prayer for a loved one. Thus, we have the situation that, if people *pay* for good fortune, then more potency is attributed to it. In an attempt to accumulate monetary fortune, Rawson also decreed that servicemen would be afforded protection if they carried a copy of the *91st Psalm* (E.S. Turner 1980: 139). Airmen and soldiers were prepared to 'believe' in such newly made-up claims that had no rational founding whatsoever. Christian religion and superstition/folklore were seemingly mingled together in an attempt to grasp at means of increasing chances of survival.

It is possible that people were becoming disillusioned with religion as they sought 'mystical shelter elsewhere, in the arms of upstart sciences, old delusions and ... charlatancy' (E.S. Turner 1980: 138). Annette Becker similarly relates how servicemen relied on superstition (Becker 1998: 96–103) to get them through the First World War. She reports how researchers came together during the war – French and Italian priests, anthropologists and classical historians – to try to understand superstitious practices and describes prayers which pre-dated the war that were revived during the war:

Prayer to protect against firearms. As a counter-charm, recite this prayer three times in succession every morning before breakfast, wear it and you will be preserved from all peril and danger of death, and you will always overcome your enemies.

Prayer: *Eccé, Crucem, domini, fugité, partès, adverse, vicis, l'eodé, Tribu, Juda, make the sign of the cross, radix, clavo* (Becker 1998: 97; quoted from Roure 1917: 710–711).

People believed that superstition and religion would provide greater survival odds as they hedged their bets.

Belief in both religion and magic were turned to in order to achieve the same thing, i.e. to survive the war. Aviators believed in religion. Aviators believed in superstition. They seemingly combined both. Indeed, 'two men may behave in exactly the same way, and yet one of them may be religious and the other not' (Frazer 1994 [1911]: 46).

(c) Category (C): Lucky pocket pieces, often with survival story

Hildburgh suggests that chance often determined what the lucky pocket piece would be, for example:

an ornament happening to be worn on a particularly successful hunting expedition may in consequence come to be looked upon as an object assuring corresponding good fortune on similar occasions in the future, or another may analogously become a charm promising success in warfare (Hildburgh 1951: 238).

Gordon Taylor 'carried the piece of Archie shell which [had been] extracted from the wing of [his] machine in the pocket of [his] flying coat' (Taylor 1968: 120–121). The jagged shrapnel was roughly one-inch square in size and Taylor's colleague had found it wedged in his damaged aeroplane. Taylor wrote, '[t]he war was suddenly very real indeed. I weighed the piece of steel in my hand and dropped it into the pocket of my flying coat, where it stayed' (ibid: 62). Taylor hoped that his good fortune in surviving on this occasion would repeat itself on a similar encounter in the future. It was believed that for objects to bring good luck, the man who carried it must have survived a campaign (MacDonah 1916: 268). Clearly it was chance that determined what the lucky pocket piece would be, but, whatever it was, it was viewed as an object that assured success and survival in conflict.

John McGavock Grider retained a piece of his first crash for luck even though he maintained that he was not superstitious (White Springs 1966 [1927]: 166). Similarly, Second Lieutenant Marcus Kaizer saved a fragment of Archie that hit him whilst he was flying for 18 Squadron. In a letter, he wrote to his parents:

2nd May 1917

My Dear Mother and Father

... I was on a job this morning. We were not attacked by Huns but "Archie" was very hot. A little piece of him hit me on the back, scratching my coat and cutting the wooden back of the seat; I have kept the fragment as a lucky souvenir; it must have been a spent piece. Don't you think that was lucky ... (Kaizer 1917).

The written words of the pilot are extremely important because they apportion meaning and significance to the piece of Archie. If that particular piece of metal had been found during an archaeological excavation, its significance as a lucky pocket piece would not have been apparent due to the abundance of such objects.

Lieutenant B.C. Hucks Small retained a splinter of the propeller which burst on his machine and nearly cost him his life, when he was flying for his aviator's certificate at the beginning of his career (Anon. g. 1915). He did so in the belief and hope that it would keep him safe during the war. He exercised his own agency in re-labelling the splinter of propeller as a lucky pocket piece which signifies his feat of surviving that particular flight.

It was common for aviators to carry more than one lucky pocket piece. Lieutenant Robert Loraine was an actor as well as a pilot before joining the RFC. He carried an old pair of leather gloves with him when he flew. The gloves had a survival story attached to them for it is reported that he wore these gloves during his attempt to fly the Irish Channel before the war, when he fell into the sea and had to swim nearly a mile to the shore (Anon. g. 1915). The gloves accompanied him when he flew during the First World War, which he survived, although he did experience dangerous moments. For example, on his first reconnaissance he flew through heavy rifle fire, and, upon landing, found fourteen bullet holes in his aeroplane, two of them only 12 inches from his head (Loraine 1938: 186). On another occasion, he got shot whilst flying and, as a result of his injuries, he lost a lung (ibid: 199). Loraine always flew with the bullets that had been removed from his lung. He kept the bullets in his breast pocket alongside a thumb-size copy of the *91st Psalm* (mentioned above) and a pocket edition of the *Happy Warrior*.⁷⁶ Loraine's life and death experiences and emotions were seemingly imbued in these objects. The bullets are a reminder of what could have been – they could have killed him but instead they signify his survival of the bullets' deadly intent whilst remaining a reminder of the injury which left him with one functioning lung. If he were to catch cold, it would threaten to settle on his only lung making him seriously ill. However, even with such an injury, Loraine was deemed 'lucky' because, due to the nature of the injury, at the end of every 7 weeks, 5 days attributed to health were added to the 7 days' leave back in England (Loraine 1938: 217).

Although bodily experience is subjective, the pilot body became 'an object of war, an object to be broken, and an object to be mended and recycled to return to being a human agent of conflict' (Winterton 2012b: 237). The bullets were also recycled, not as souvenirs of war, but as lucky charms. The bullets' agency remade his public body as Loraine was left with only one healthy lung. He had created his own agency by recycling the bullets into lucky pocket pieces that represented his greater victory of surviving the wound (see Saunders 2003: 15).

It was common during the First World War to remove war objects of interest from crash sites as souvenirs or trophies of war. Lieutenant Rainey shot down a German aviator whilst flying over enemy lines. He took the German pilot's helmet and wore it as a lucky mascot (Anon. g. 1915). Pilot, James McCudden, made an entry in his diary that he wore a silk cap belonging to a German pilot that had been removed from his crashed German aeroplane. The silk cap 'took my fancy and fitted me so well that I had it copied in silk khaki and wore it in France for months' (McCudden 1987 [1918]: 203). These are more instances of airmen exercising their own agency in attributing objects of war with meaning and significance beyond their original purpose.

This example of trench art (figure 29) is made in the image of a twin-engine biplane typical of the era – its configuration is representative of the Handley Page bomber used by both the RNAS and the RFC, coming into service in late 1916.



Figure 29: Royal Flying Corps pilot charm presented as trench art, constructed in the image of a Handley Page O/400 aeroplane (© author).

Recognising this configuration is important because Handley Pages were used as night bombers against strategic German targets such as coastal and industrial areas and railways. The Handley Page was fitted with an early bomb aimer and five Lewis machine guns for defence. The sight of the Handley Page flying would have been memorable for it had a huge wingspan – 114 feet⁷⁷ – and no aeroplane as big as this had been seen before.

This piece of trench art is made from copper combining a rectangular copper nail and soft copper strip (probably scrap) cut and fashioned to form wings and the twin tail plane which are silver-soldered into position. Made from the metal wastes of war, this example of trench art incorporates 'the agents of death and destruction directly into its ... artistic form' (Saunders 2003a: 163).

There is no provenance for this item I purchased on eBay. The reason I bought it is that I wanted to be able to touch a genuine war object, and not be forced to gaze at it through a glass display cabinet in a museum. Clearly there could be a 'question of authenticity' (Saunders 2016: 26) but, at the very least, the raw material would have been around at the time for each squadron's aerodrome had a workshop to make official and unofficial items. But it would be impossible to know for sure where the scraps of metal came from. The maker may have bartered something in exchange for the scraps in which case 'others' (Heidegger 2005 [1962]) would be involved. This would widen the story of the production of the trench art, highlighting its 'social life' (Appadurai 1986a: 5) and adding to its 'cultural biography' (Kopytoff 1986) as well as patina to the object.

The Handley page trench art item, as well as being a lucky pocket piece, is also a 'personal memory object' of flying at night as it 'configures and fix[es] personal experience after the event' (Saunders 2003a: 5). For example, observer, Second Lieutenant Roy Shillinglaw of 100 Squadron, recalls flying a Handley Page over Metz in Germany on a full moonlit night at about 2,000 feet.⁷⁸ He could clearly see the deserted streets. He then flew 20 miles further north to Thionville with its large blast furnaces and electric power station. He saw a great firework display of bombs bursting and intense anti-aircraft and the whole sky was lit up by searchlights (Skelton 1979: 119). On another full moonlit night, Shillinglaw remembers flying over a lake and thought that he and his observer had spotted a German aeroplane below so dived onto him only to find it was their own aeroplane's shadow (ibid: 119). Indeed, Sergeant Observer Wardrop, of 207 Squadron RAF, remembers:

on a moonlight night you'd see passing over clouds a double shadow of yourself. You could see the shadow of the cloud itself and you could see the shadow of the ground if you were low enough down. It was rather interesting to see two of yourself (Wardrop 1973).

Night flying seemingly played tricks, altering peoples' perception, making them see things that are not there.

The blank canvas on the nose of the Handley Pages was often artistically decorated. 207 Squadron RAF was known as the Black Cat Squadron and images of a black cat were often painted on its Handley Pages (Langham 2016: Loc. 572) for it was perceived that the black cat was a suitable good luck symbol for a night bomber, especially as folklore deems that cats have nine lives.

(d) Category (D): Lucky sayings, omens and rituals

Whilst aviators' ritual behaviour could be of an individual nature, there were superstitions and rituals that were distinctive to an entire squadron. For example, in many squadrons there was always an ill-omened hut, tent, or bed where it was thought that something terrible would happen to any person that slept there. No doubt such huts, tents or beds were initially connected to the death of a pilot, the death subsequently creating the superstition – thus bringing to mind Lévi-Strauss's (1966: 16–17) use of the term '*bricolage*' as the aviators used death-related stories that were to hand to fuel superstition. Superstition could be unique to a squadron as indicated by William MacLanachan, (writing under the pseudonym 'McScotch') who wrote that in his No 43 Squadron there was a superstition that any pilot who played the scratched and battered piano that stood in a corner of the mess would not survive the week if he touched the keys ('McScotch' 1985 [1936]: 81). Such ritual behaviour contributing to a squadron's unique cultural identity.

There was a lucky way of saying 'au revoir' during 1917 and 1918, especially among Americans. As the pilot clambered into the cockpit, he waved and shouted 'see you in hell!' (Dunn 1941), almost as if acknowledging that his death was likely but that if he said it out loud, he might somehow survive. Evidently most charms, mascots and talismans are real objects. But they can be an act, such as, in the case of a charm, saying 'white rabbits' on the first of the month (Paine 2004: 10) to encourage good luck and to bring health and happiness. Indeed, after air mechanics had checked the guns and engines 'they helped us into our cockpits and saw us settled into our seats and safety belts fastened, then they climbed down with a quiet, "Good luck sir"' (Brokensha 2008: 2). Of course a simple every-day 'good luck' could tempt fate.

Taylor remembers entertaining a captured German pilot in the Officer's Mess. The German pilot made a speech and, upon raising his glass to make a toast said 'Hals und Beinbruch' which means 'may you break your neck and legs'. In the German Air Force it was perceived to be bad luck if you wished somebody good luck (Taylor 1968: 126–127). It was the same in the United Kingdom. In telling somebody to injure themselves, one is meaning that you really hoped the injuries did not happen and it was preferable to return home from the war wounded rather than being dead. Saying good luck could bring bad luck so 'break a leg' was used instead so that an injury would not occur. Wishing someone good luck in an ironic way is used in the world of theatre where wishing good luck is considered to be bad luck and saying 'break a leg' is wishing somebody good luck,

to spur them on to give a good performance. Similarly, a well-known theatrical superstition is that Shakespeare's play *Macbeth* is considered bad luck to stage and that productions are always plagued with misfortune. As a result, the name of the play is never spoken out loud with euphemisms used instead. Sharper Knowlson (2008 [1890]: 186) writes that actors believed the witches song in *Macbeth* possessed the power to cast evil spells.

Second Lieutenant John Chisman of 204 Squadron RAF, flew Sopwith Camels which he always named 'Fum's Up!'. This was a very individual interpretation of the popular phrase 'Fums Up!' which was a good luck term popular in the 1900s and up to World War Two. This was in recognition of the phrase 'Fum's Up!' which his sister used to sign off her letters to him. In addition, Lieutenant Chisman had an image of the Fums Up! character painted on the spine of his aircraft (figure 30) (Anon. m. 2013). His sister's letters to him were clearly important and, in using his sister's phrase from the letters on the name board, he is passing on the message of morale for all to see as well as advertising the identity of who was flying the aeroplane.



Figure 30: 'Fums Up!' aircraft name-board. This sign belonged to 2nd Lieutenant John Raymond Chisman, who served with 204 Squadron, RAF, in 1918. He flew a number of Sopwith Camels – all named 'Fums Up!' (Accession No. 0012588) (© RAF Museum).

Touching wood is probably one of the best known superstitions in the United Kingdom today. We touch wood and/or we say 'touch wood' at the same time whenever we have tempted fate in some way or been boastful. For many people such an action is practically involuntary and part of everyday life and speech (Roud 2006: 484), as indeed is 'good luck' and 'break a leg'. Clearly the act of touching wood along with its superstitious meaning is not visible in the archaeological record and it is to the words of the people who were there that we turn. Pilot Norman Macmillan (2015 [1929]: 27–28) writes that it was not advisable to say anything with certainty without touching wood, otherwise the opposite would happen or a run of good luck could change to bad.

First World War pilots often used the phrase 'touch wood', adding resonance in the First World War because aircraft were made of wood. Indeed, Gould Lee wrote:

Mac rocked his wings and dropped at once into a steep dive eastwards. So there we were, the four of us, at one moment motionless, the next plunging towards earth, the wind screaming in the wires. I soon spotted the target, four D-III's about 5,000 feet below, and going our way. It was a madly exhilarating feeling, swooping down on them out of the sky, the nearest thing to a cavalry charge I can imagine. They hadn't a notion we were coming. I touched wood, glued my eyes to the Aldis, took aim on the Hun at the right rear of the formation ... (Gould Lee 1969: 130).

Gould Lee was asked why he touched wood and he replied in a letter:

Friday 21 September 1917

In your last letter you ask me why I touch wood just before a scrap when I could pray. But why should God grant me any special favour? The Hun I'm fighting may be calling on him too. It isn't as though I have any great faith in religion, but even if I had, would it divert a bullet? Anyway, how can anybody who has to fight believe in God, with all the mass killings, and with British, French and German priests all shouting that God is on their side? How can I call on God to help me shoot down a man in flames?

But you do need something to stiffen you. Maybe some fellows do appeal to God. Others are just superstitious, have charms or cross their fingers, or, like me, touch wood. That's different. You're asking chance not to lay odds too much against you. It's a kind of talisman to ward off evil ... (Gould Lee 1969: 193).

On occasion, some pilots seemingly broke the ritual and forgot to touch wood. Since his first solo flight at Shoreham during which he touched wood, Duncan Grinnell-Milne kept up the ritual on future flights (Grinnell-Milne 1957 [1933]: 21). However, on one flight, asked '[d]o you think we are scheduled to "go west"⁷⁹ tomorrow?' (ibid: 125), Grinnell-Milne said:

Not on my life, I maintained stoutly, would anything disastrous occur. If we went at all, and the weather made it uncertain, we would return just as we had done from a score of previous flights across the lines. My leave was due at Christmas and on that day I had every intention of dining at home. I laughed at his fears. But I must have forgotten to touch wood (ibid).

The aeroplane crashed and he became a prisoner of war. Was it because he did not touch wood?

Belief is a very individual matter and pilots regarded certain incidents or rituals as attracting good or bad omens. The airmen were anxious over the uncertainty of the time

they would die and attempted to alleviate this doubt by searching for a predictable outcome. They created innovative means in an attempt to attract good fortune. For example, belief in propitious directions was also apparent. Norman MacMillan remembers that some airmen would not drink from a bottle until the first drop had been spilled on the floor and, when the bottle was passed around the other airmen, it had to be passed from left to right (Macmillan 2015 [1929]: Loc. 464–469) in the direction of the sun, to the source of life – to the right or clockwise (Hertz 1973 [1909]: 3–31), the lucky way (Roud 2006: 444). Interestingly, on observing the Maori in New Zealand, Robert Hertz's work on polarity in dexterity equates the right side of the body as being 'the side of life (and strength) while the left is the "side of death" (and of weakness). Fortunate and life-giving influences enter us from the right and through our right side; and, inversely, death and misery penetrate to the core of our being from the left' (Hertz 1973 [1909]: 12). In addition, Bourdieu's (1979: 144) exploration of the lived domestic environment of an Algerian Kabyle House, introduces *habitus* concepts in terms of a series of binary oppositions that structured the occupants' lives. He noted how individuals performed actions in accordance with cardinal orientation in order to achieve a particular favourable outcome. It is clear that there is a remarkable congruence between Kabyle actions designed for a positive result and those of First World War pilots who developed ways of behaving to secure a similarly favourable outcome, despite there being no objective (scientific) reason for doing so.

Some aviators climbed into the cockpit left foot first – the most awkward way (Dunn 1941: 2). However, I would query this because when I flew the Tiger Moth, the pilot instructed me to enter the cockpit left foot first as being the best way:

Getting into the plane was an art form in itself and required good climbing skills and vestibular capability for there is a particular way to get into the plane and this has to be performed the right way to avoid damage to the plane and to avoid entangling one's legs and feet. There is a rhythm to it, like remembering dance steps. You have to stand on the black strip on the right wing of the plane. I wanted to start with my right leg, but was advised to start with my left leg. Lift the left foot high over the side of the plane placing it down onto the leather seat ... Then, bring the right foot high over the side of the plane and down on to the leather seat. I had to physically lift my foot with my hand to push it higher in order to get it over the side of the plane. Now, standing on the seat, the body is crouched, and, in this position, lean back hold either side of the plane to promote body stability, and slide into the seat so the feet are on the floor of the plane (MW, Field Note Book: Appendix 2).

The practice of divination is evident in both ancient and modern civilisations (Evans-Pritchard 1937; Struck 2016) and it was evidently adopted by aviators. For example, pilots regarded the movement of cigarette smoke as an omen that indicated the success or failure of their next flight. If smoke was seen to move in an upwards direction, this was an indication that a pilot's next flight would go smoothly. If, however, the smoke did not appear to move in a particular direction, this caused some worry as to the success of a pilot's next flight. If smoke was witnessed to move towards the ground, this caused great worry in that it was perceived to be a signal indicating that a pilot's next flight may not be successful (Dunn 1941: 2). The action of the smoke is functioning as a code; it emits a message which is interpreted by the young airmen. This omen may derive from the superstition that when chimney smoke goes to the ground, bad weather will follow ('Old Superstitions' website). Clearly, 'divination is associated with the sense of danger, and often seems to relive it ... its omission might have genuinely difficult consequences for the person or group who acted without it' (Park 1963: 196).

It was within an aviator's control 'to bring this luck on himself, provided he acquires the necessary magical lore' (Strenski 1992 [1922]: 35). One pilot insisted on having the number '7' on all his flying gear, whilst another dreaded odd numbers on everything (Dunn 1941: 2) even though most odd numbers have always been considered to be lucky whilst even numbers are unlucky (Roud 2006: 342). Evidently the rules were constructed to suit personal interpretation, for example Norman Macmillan reports that some airmen would not sit down with thirteen at a table⁸⁰ and would also refuse to fly an aeroplane with a number like '3523', the units of which add up to thirteen (Macmillan 2015 [1929]: Loc. 3957).

Whilst it was considered unlucky to fly with another man's mascot or lucky charm (Macmillan 2015 [1929]: 27–28), some airmen refused to fly if they lost theirs. Gordon Taylor brings to life a serious incident when his colleague, nicknamed Ratter, lost his lucky charm whilst swimming in the sea and refused to fly without it. Taylor recalls that Ratter was an extremely popular member of the squadron so everyone empathised with his loss and Taylor could understand his feelings very well for he too carried lucky mascots and he writes:

We first of all searched the edge of the sea where the waves breaking on the sand left behind odds and ends washed up on the beach ... We moved out into the shallows, sifting the sand with our fingers, digging in with our toes, trying to feel for something small and solid that could put the Ratter back in his Sopwith Pup, confident again in the magic effect of

his charm. It seemed utterly futile, but we went on, not caring to stop and face the dismal truth. Then suddenly there was a shout of triumph ... one of us found it in the sand under his feet ... (Taylor 1968: 119–121).

It is interesting to note that Second World War aircrew also participated in rituals as a means of encouraging good luck. Pilot Ray Gould remembers that before boarding the aircraft, and, in an attempt to maintain morale:

We would ... ceremoniously gather round the tail wheel ... moment of quiet would descend over us whilst we all, I expect, said our own silent prayer for a safe return. Then we would all pee over the tail wheel and woe betide anyone who missed (Gould 2000).

Aircrew participated in rituals and believed in omens and lucky sayings as a means of encouraging good luck, a strategic way of acting, it proffers a view of the cultural dynamics with which people make and remake their worlds (Bell 1992: 3–7), particularly in times of conflict.

(e) Category (E): Objects traditionally associated with good luck in folklore
White heather is traditionally associated with good luck. A sprig of white heather is quite rare for 'a man might walk for many miles over purple heather without seeing a single white bell' (Villiers 1929: 90). It is classed as a mascot considered to afford protection from danger if one happens 'to light on [white heather] while a wish was in [one's] mind, then that wish would come true' (ibid). This sprig of white heather, stapled to paper signed in fountain pen 'Mickey April 1917', was sent to Major Alfred John Mitchel-Clarke by his mother and he carried it as a lucky charm (figure 31).



Figure 31: Sprig of white heather carried by Major M. Mitchel-Clarke (Accession No. 80c991) (© RAF Museum).

Mitchel-Clarke learned to fly in a Maurice Farman biplane,⁸¹ receiving his aviator's certificate on 30 May 1915 ('Grace's Guide' website). The message in this good luck charm is intended to preserve life. Heather is a fragile flower; it discolours, dries up and dies, just like human beings. But this heather has been preserved, albeit in a dried state, just as it was Mitchel-Clarke's mother's wish that his life be preserved. His mother's action of sending the white heather card as an 'agent' of good luck intends to 'change the world' (Gell 1998) as she hopes it will cause her son to survive the war. He survived the First World War.

Some pilots carried toys in the image of a black cat in the hope of attracting luck. In this photograph (figure 32), an observer can be seen wearing the figure of a black cat on top of his flying helmet, altering the way he presents himself to the world – and perhaps hoping that he would lay claim to the perceived nine lives of a cat.



Figure 32: Unidentified crew of RE8 biplane, 1918. The observer has a lucky charm attached to the top of his helmet – a black cat (Accession No. X007-0458) (courtesy RAF Museum).

Gordon Taylor remembers that his mother gave him a fabric toy in the form of a small black cat as a mascot. He attached it to his aeroplane's instrument panel. Taylor recalls that the cat had comical whiskers and it used to look at him 'with a kind of humorous disdain which made [him] feel like a damned fool for being scared of Archie' (Taylor 1968: 120–121) (figure 33).



Figure 33: Black cotton velvet cat, the lucky mascot of First World War pilot, Gordon Taylor (© Australian War Memorial REL58023).

The sight of Taylor's black cat seemingly maintained his morale.

Flight Commander Captain Albert Ball DSO, MC also carried a black velvet cat as a lucky mascot. At home, on leave before returning to France, Ball was presented with the cat by a young girl who called at his father's house. She requested that he fasten the cat to the front of his aeroplane as a mascot. He accepted the mascot and, in a letter home, reported that it was bringing him luck (Anon. f. 1917). Clearly the giving of gifts for luck makes specific relations with people apparent. The person who gives the mascot becomes an 'agent' who intends for the mascot to protect the aviator, causing him to be safe (Gell 1998: 16), such agency having great significance in the social world of the airmen. Also, Ball was an acknowledged ace, but perhaps not so confident that he would say no to a little help from a lucky mascot. Ball did not survive the war, pilot Gordon Taylor (1968: 77–78) commenting on his death, '[o]n the evening of 7 May [1917] Ball was missing. Albert Ball was more than a successful fighter pilot. He was a tradition, a simple person who exemplified the highest form of gallantry. He had become so much a legend in his short career that nobody ever thought of him actually being shot down'.

(f) Category (F): Personal object infused with special/intimate meaning personal to the aviator

Mascots were often infused with special meaning in that they were given as a gift from, perhaps, a wife, girlfriend, friend, or close family member, and so invoked intimate personal relationships. Lieutenant Norman Birks always carried a toy mascot in the form

of a bulldog, given to him by his fiancée. It was damaged by bullets during the war but survived to remain in his possession after the war. He remembers that he liked to think that it saved his life on numerous close engagements with the enemy (Birks 1914–1918: 4–5). On one occasion he was flying about 4 miles behind enemy lines (without his bulldog mascot) and attacked an enemy patrol. He recalls that his petrol tank was hit very early in the engagement, his engine stopped and he was soaked in petrol, making it a much more hazardous situation as all guns (enemy and friend alike) were firing tracer bullets of about one in five.⁸² Birks describes how the instruments in front of him disintegrated but ‘the only bullet hitting [him] was in [his] right buttock, now known as [his] “dishonourable wound”’ (ibid). He crash landed on the edge of a shell hole just behind the German front line trench and always liked to think that, if he had had his bulldog mascot fitted to his new aeroplane, he would have reached his own lines, ‘such is superstition’ (Birks 1914–1918: 4–5). Having the bulldog mascot in his possession after the war acted as a reminder of incidents such as these and the healed and fading scar from the bullet wound became a visual reminder which he associated with the feel of the pain, the noise of the bullets, the smell of the fuel and the sudden silence from the engine cutting out. Memory is after all, ‘the horizon of sensory experience’ (Seremetakis 1994a: 9).

In the Brotherton Library, Leeds University, this knitted toy was stored in a box (figure 34). I carefully removed it from the box, touching it, and photographing it.



Figure 34: Adolphus, the knitted dog mascot (© author, courtesy Liddle Collection, PoW 003).

The knitted dog, named Adolphus, belonged to Major Maurice le Blanc Smith and was given to him when he was a Flight Commander with 73 Squadron at Lilbourne near Rugby. He remembers:

When we were leaving for France one of the girls [the girls staffed the stables of a former polo player nearby and le Blanc became great friends with them] gave me a mascot, a small soft toy dog with long ears and a rather wistful expression. He flew with me all the time I was overseas ... and I have him still, not quite as smart ... not having had a bath for 63 years, sitting beside a clock, a reminder of time long past ... (le Blanc Smith 1982: 8).

This is an example of a souvenir/mascot having the power to conjure memories of youth and danger in terms of bringing two quite separate worlds together. On reading the papers that accompany the toy dog, it is clear that the mascot became a part of le Blanc Smith's flying ritual. It was infused with memories of people, places, and opinions over a period of time. Le Blanc Smith did not think that people would be interested in his mascot for, in a letter to the historian, Peter Liddle, dated 27 February 1982, he wrote:

... Apart from my log books which I am keeping for the moment nothing else of mine has any historical interest, including the mascot, which could only moulder away in a drawer unseen and unwanted. Better with my grandchildren or even in a toy museum, some day ... (Le Blanc Smith 1982: 1).

Even the owners of mascots do not regard their objects as being historically significant or having the capacity to help academic research understand the experiences of war. This thesis therefore makes visible and significant what has been invisible and regarded as insignificant for the last 100 years and, therefore, contributes a new material dimension to understanding the First World War.

The lucky mascot 'Sunny Jim' (figure 35) was always carried by RFC pilot Gerard Gwyn Crutchley (figure 36). This act indicated a sensory relationship with the mascot, which seemingly provided a feeling of comfort, enabling Crutchley to reflect on the memorable day he was given it. It was presented to him by the actress and comedienne Beatrice Lillie⁸³ in 1917.



Figure 35: Sunny Jim (© Gerry Crutchley).



Figure 36: Royal Flying Corps pilot Gerard Gwyn Crutchley (© Gerry Crutchley).

She wrote 'Good Luck' and signed her name ('Crutchley' website). He described the meeting in a letter to a friend:

I met a little Peach in town about 10 days ago and have had two glorious days with her already. She is on the stage and unfortunately has just started touring. This week she is in Folkestone. She is coming to London again soon though. Will tell you all about it when I see you (ibid).

Made of a golden yellow fabric, Sunny Jim is a fictitious character. His head looks like a sun, hence the name Sunny Jim. The significance of the sun talisman is that the sun is the symbol of life, and thus, as a mascot, it ensures health and success and power, particularly to those born under the birth sign Leo (Villiers 1929: 157). Coincidentally Crutchley was born on 8 August 1893 so his birth sign was Leo, such horoscopic astrological interpretation being an example of divination in the modern Western world.

Crutchley's sensory relationship with the mascot is linked to his memory of the day the actress gave him the mascot. On 10 July 1917, his head was struck by his aeroplane propeller causing fractures to his skull. His family were informed that he may not recover, but remaining in hospital for nearly one month, he survived his accident and returned to train pilots ('Crutchley' website).

A teddy bear was used as a lucky mascot by 2nd Lieutenant Marcus Kaizer of the RFC, providing another example of an aviator exercising his own agency in attributing an object with meaning and significance beyond its original purpose. Such are the ironies of war, the teddy bear is German-made. Whereas many mascots were given as a gift to wish the recipient good luck, Marcus 'borrowed' the teddy bear from his younger cousin, Kitty, who did not want him to take it. Nevertheless, the teddy meant a great deal to Marcus as a special reminder of a favourite cousin and it accompanied him on flights over the Western Front, no doubt bringing comforting memories of his happy family life as he coped with the fears and anxieties associated with being an aviator in the First World War. He was shot down but was fortunate to be pulled from the burning aeroplane wreck by his gunner. He suffered injuries to his arm and his mascot was also damaged. The teddy bear wore bandages, and, perhaps, taking an 'injured' teddy bear mascot on flights would keep Marcus safe (pers. comm. 25 March 2018). Although suffering hardship as a prisoner of war, during which time he managed to escape and then be recaptured, Marcus survived the war. The RAF funded his studies at Cambridge University where he studied Mechanical Engineering, the beginning of a distinguished career. He also served in, and survived, the Second World War as a Wing Commander (pers. comm. 09 April 2018). The mascot is now an interesting focal point within the Freund household giving Marcus a powerful presence.

German airmen also held beliefs in the protective power of things. Indeed, German fighter pilot Manfred von Richthofen's⁸⁴ family donated this blue hued glass dog to the RAF Museum, Hendon (figure 37).



Figure 37: A ¼ inch high blue glass figure of a sitting dog (Accession No. 77C1593) (© RAF Museum).

Richthofen was fond of dogs and it is alleged that he believed that, as long as the glass dog remained in his possession, he would escape injury. But, while convalescing from an injury, he gave the glass dog to his nurse. He was subsequently shot in the chest during a dogfight, and died shortly after giving away the glass dog ('War History Online' website). The dog is reminiscent of a Daschshund, a dog used to scent, chase and flush out burrow-dwelling animals; perhaps Richthofen thought it would help him flush out Allied pilots in the skies. The dog is made from Czech glass and such small figures were traditionally placed in Christmas crackers ('Sandy's Vintage Charms' website). The glass dog could therefore have been a reminder of a happy family Christmas on his father's estate in Silesia, Prussia. However, other sources suggest that Richthofen did not believe in lucky charms, and, when someone suggested a charm, he was quick with his reply: 'I have a most effective talisman ... My Spandaus [i.e. machine guns] ...' (Fitzsimons 2010: 109). Lovett's view was that 'the more superstitious people are, the less inclined they are to talk' (Lovett 2014 [1928]: 73) or admit to being superstitious.

CONCLUDING COMMENTS

This dimension of a conflict air-scape sees aviators' superstition manifest into actual physical and tangible reality in terms of bodily ritual and the use of objects reified in material culture as lucky mascots. First World War aviators were in touch with their world through their emotions as they engaged with their material air world, sometimes in very individual and creative ways as their ideas, beliefs, or emotions, are given forms for all to see (DeMarrais et al 2004a: 1). The use of lucky mascots was driven by an

aviator's instinct to survive in his conflict air world and is a material dimension of his air-scape. In this haptic world, airmen relied on, and to some extent, were controlled by, lucky mascots, superstition and ritual to recreate their social world, to manufacture a world that they imagined they could control. This was a world where aviators exercised their own agency in attributing objects of war with meaning and significance.

CASE STUDY 3

EMOTIONAL BIOGRAPHIES OF PROPELLER GRAVE MARKERS

INTRODUCTION

This case study focuses on wood aeroplane propellers retrieved from crashed aircraft and recycled into propeller grave markers subsequently erected over aviators' graves. Taking a biographical approach, it identifies the events in the social life of these distinctive objects through combing the literature to identify common events. Such markers may be considered 'in terms of their involvement in the expression and the creation of emotional relationships' (Tarlow 1999: 25) and, since 'emotions are culturally constructed ... they are amenable to archaeological [and anthropological] analysis' (ibid: 35). Here, the aim is to reveal how the grave markers became infused with pilots' flying experiences, and how new memorial spaces were created as these propellers were moved, and in Hallam and Hockey's (2001: 86) phrase, 'spatialised memory' was foregrounded. This particular aspect of the study creates ever-closer relationships between anthropology and archaeology through its shared focus on material culture and on human-object interaction. Individual stories attached to 'acquisition events' bestow significance on the commemorative legacies, and give the deceased a powerful presence today. This case study is therefore an integral part of the aim of this thesis to offer a hitherto neglected perspective on First World War aviators' experiences as a contribution to interpreting this previously unexplored dimension of conflict.

Before the standardised Portland stone headstones of the Imperial (now Commonwealth) War Graves Commission⁸⁵ (hereafter CWGC) were erected, graves were marked by a simple wooden cross bearing a metal plate with an identifying inscription (Longworth 2010 [1967]: 8) or, in some instances, for aviators of the RFC, a propeller grave marker. Very few propeller grave markers have withstood the test of time and it is mainly photographic and textual evidence that attest to their existence.

EVENTS IN THE LIFE OF A PROPELLER GRAVE MARKER

From being the mechanism which allowed the aeroplane to fly, the propeller was ‘reborn with renewed potency’ (MacGregor 1999: 269) as a grave marker if the aircraft crashed. The social life of the propeller grave marker is differentially significant to those who act in and around it, such as the bereaved relatives and RFC colleagues. In seeking to understand how these distinctive grave markers became invested with meaning through social interactions, this research identified seven events, or social interactions, that represent ‘broader interpretive connotations around and beyond’ (Meskell 2004: 2), as well as prior to, the erection of such markers.

I identified seven events (Table 3), or social interactions, that may apply to the ‘social life’ (Appadurai 1986a: 5) of a propeller grave marker. Such a ‘cultural biography’ (Kopytoff 1986: 66–67) approach to propeller grave markers afforded their stories new depth and dimension.

Table 3: Events of social interaction in the social life of a propeller grave marker

Event of social interaction identified from research of the literature	Comments
(a) Pre-acquisition event	The story of the aviator’s death apports value, meaning and significance to the propeller grave marker, as well as being representative of other grave markers.
(b) Acquisition event	The appropriation of the propeller, usually removed from a crashed aeroplane; sometimes the propeller from the deceased’s aeroplane was utilised, but not always.
(c) Manufacture event	The propeller was crafted into a grave marker, usually by a skilled person, who should have the requisite tools to hand, e.g. the squadron carpenter, rigger, or armourer. Once reworked, it also becomes a trench art memorial. Representative of Category 1a, i.e. made by servicemen on active service, 1914–1918 (Saunders 2003a: 40–41).
(d) Erection event and funeral	Propeller is erected over the grave, usually by RFC colleagues. Funeral possible, but not always.
(e) Post-war visitation event	Visits by, for example, a family member on a personal visit or as part of an organised pilgrim tour; a representative from a group such as the Salvation Army in the event that a relative was unable to visit; a returning serviceman. Such visits of the bereaved fuelled the trade of souvenir trench art as civilians scoured the battlefields for the war <i>matériel</i> necessary to make souvenirs for the pilgrim tourists to purchase.
(f) Lost or destroyed event	Propeller grave marker was removed from the grave to be replaced by the uniform headstones erected by the

	CWGC after the war. If the propeller grave marker was not destroyed by the CWGC, it might have been transported to the UK, usually by a relative, to, for example, a private garden, church or churchyard.
(g) Donation elsewhere event	There are instances of propeller grave markers being donated to a museum to become an exhibit behind the window of a glass cabinet.

These events impart new layers of meaning not only to the propeller grave marker but also to the war in the air overall thereby contributing to my definition of a First World War conflict air-scape. The seven events invest the grave markers with significance and meaning in terms of the social interactions they find themselves immersed in both in terms of before the biplane crashed and how we experience them today.

Although Kopytoff's cultural biography approach was integral to my identification of these seven events, he highlights the way in which objects 'are commodified and lose personality' (Hoskins 2006: 75). To negotiate this obstacle, by drawing on first-hand evidence from aviators' diaries, letters, books, and photographs, it is possible, in affording another dimension, to enable these 'mute objects to speak' (ibid: 78). In this way, the propeller grave marker becomes a repository for an aviator's conflict flying experiences. As such, it is the story of both the aviator's death (the pre-acquisition event) and how the propeller came to be acquired, for example by 'souveniring' (acquisition event) and the grave marker's subsequent manufacture event that contributes to the overall value, meaning, and significance of the object as a commemorative legacy.

The following provides examples of each event.

(a) Pre-acquisition event

Australian John Hay (figure 38) travelled to England to learn to fly, gaining his Royal AeroClub Aviators Certificate (No 3039) on 2 June 1916. He then enlisted in the RFC, travelling to France in August 1916, as a scout pilot with 40 Squadron which was equipped with FE 8 pusher biplanes⁸⁶ ('University of Sydney Roll of Service' website).

Photograph removed due to permission issue
([http://beyond1914.sydney.edu.au/
profile/3126/john-hay](http://beyond1914.sydney.edu.au/profile/3126/john-hay))

Figure 38: 2nd Lt. John Hay, 40 Squadron, RFC
(© and courtesy Historical Collections of Sydney University Regiment).

On 23 January 1917, whilst flying FE 8 number 6388 on patrol, Hay shot down two German aeroplanes. He was later attacked by a group of five enemy aircraft from Jasta 11⁸⁷ before becoming the seventeenth victim of German pilot, Baron Manfred von Richthofen ('AWM' website: Hay). Lieutenant Hay's aeroplane caught fire and he was witnessed jumping from a burning aeroplane to his death. His body was subsequently recovered by Canadian troops (Franks et al 2007: 53–54). Fellow officers had a memorial plaque engraved that was attached to the propeller grave marker from his aeroplane that read: 'The earth holds not a braver gentleman' ('University of Sydney Roll of Service' website). The plaque in the photograph, at figure 39, was initially placed on a propeller grave marker (figure 40), that had been erected over Hay's grave and was subsequently given to his family and brought back to Australia ('AWM' website: Hay). The Canadian servicemen who buried Hay also had a piece of tin cut into the shape of a ribbon with the words 'a notre frère' (our brother) painted on the front in pale blue as a mark of respect (figure 41).



Figure 39: Rounded brass plaque with a pair of pilot's brevets engraved at the top. The plaque had been attached to the propeller grave marker that marked the grave of 2nd Lt. John Hay, 40 Squadron, RFC (Accession No. REL23683) (© and courtesy Australian War Memorial).

Photograph removed due to permission issue

(<http://beyond1914.sydney.edu.au/profile/3126/john-hay>)

Figure 40: Propeller grave marker of 2nd Lt. John Hay, 40 Squadron, RFC, Aire Communal Cemetery, France.



Figure 41: Fragment of tin funeral wreath plaque, 2nd Lt. John Hay, 40 Squadron (Accession No 34599) (©Australian War Memorial).

The significance of including John Hay's death in this section is that he jumped to his death to escape being burnt to death. Royal Flying Corps pilots did not have parachutes that would enable them to bail out in an emergency in an attempt to save their lives, although they had been invented. During the First World War, both RFC and RNAS pilots and observers flew aeroplanes without wearing parachutes, which if they had them, could save their lives. Observers in balloons, on the other hand, were supplied with parachutes but their bulkiness would not fit into the cramped cockpits of biplanes. The High Command refused to provide pilots with parachutes and their absence became a point of contention that is still debated today (Winterton 2012).

Aviators' diaries, letters, and books reveal that the absence of a parachute caused considerable anger. Pilot Arthur Gould Lee made his feelings clear. The supply of parachutes would not only ensure that 'every pilot would sacrifice a little performance to have a chance to escape from break-ups and flammers' but would also be a 'great boost for morale' (Gould Lee 1969: 57).

Gould Lee described how a friend died in an aeroplane whose wings suddenly folded back, one after the other, causing the aeroplane to dive vertically:

3 January 1918

They could see him struggling to get clear of his harness, then half standing up. They said it was horrible to watch him trying to decide whether to jump. He didn't and the machine and he were smashed to nothingness ... God imagine his last moments, seeing the ground rush up at him, knowing he was a dead man, unable to move, unable to do anything but wait for it. A parachute could have saved him, there's no

doubt about that. What the hell is wrong with those callous dolts at home that they won't give them to us? (Gould Lee 1969: 293).

Pilots dreaded the thought of dying in a flaming aeroplane. Royal Flying Corps ace, Mick Mannock, after witnessing one of his victims going down in flames, wrote in his diary: 'It was a horrible sight and made me feel sick' (Jones 1934: 149). Mannock was known to carry his service revolver with him whilst flying as he would prefer to shoot himself rather than die in a flaming aeroplane ('McScotch' 1985: 88). Mannock died in a flaming aeroplane on 20 July 1917 although it is not known whether he managed to shoot himself (Winterton 2012).

(b) Acquisition event

Duncan Grinnell-Milne wrote that in a BE aeroplane,⁸⁸ it was impossible to fire straight forward because the propeller got in the way and evasive means had to be adopted to avoid hitting the propellers:

The forward gun-mounting gave an arc on either bow, above and below, but to fire straight ahead would be to send shots into the propeller, possibly smashing a blade and consequently bringing the machine down. To hit our enemy, we had to turn slightly away from him, put in a burst or two and turn back quickly so as not to open the range (Grinnell-Milne 1957 [1933]: 69).

Even undertaking such evasive action, propellers were hit by gunfire and aeroplanes crashed which meant that pieces of wooden propellers were readily available to be 'souvenired' and/or recycled into trench art/propeller grave markers (figure 42).



Figure 42: Trench art letter opener crafted from the wooden propeller and engine strut of a Sopwith Pup aeroplane. Belonged to RFC Carlos V. Wheatley. Length c. 20cm (Accession No. 96/3)
(© author, courtesy Shuttleworth Collection).

The letter opener above has been made from scrap metal from an aeroplane (probably the steel struts) that has been attached to a wooden handle crafted from a piece of wood from an aeroplane propeller. The wooden handle appears to be in the shape of the

handle of a pistol and, on holding it myself, it rests very neatly in the hand but because the hand has to go round it, the letter opener would not be an easy object to manoeuvre to open a letter. The small piece of wooden propeller would have been readily available and may even have been an offcut from one of the many propeller grave markers that were made by a squadron carpenter or armourer.

Crashed aeroplanes were good for general 'souveniring' beyond propellers – e.g. wing and tail linen (figure 43).

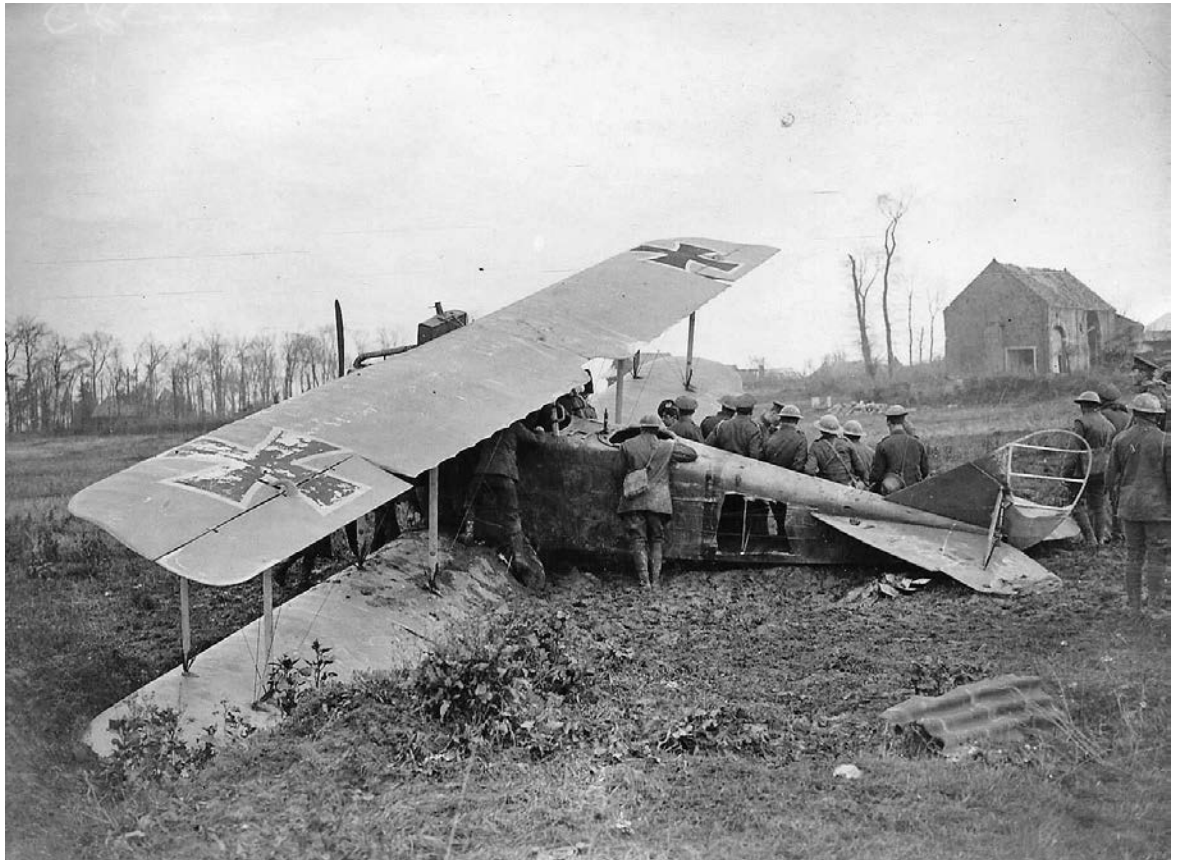


Figure 43: Crashed German biplane with 'souveniring' Tommies, note whilst the propeller is still in place, the aeroplane linen has already been souvenired (author's photo).

So fragile were the aeroplanes, that it did not take much to damage them. War artist, Major Sir William Orpen wrote of an occasion on the Western Front when he watched novice English pilots perform aeroplane trials:

I remember one poor chap in particular. He circled the aerodrome 12 times, each time coming down for landing and each time finking it at the last moment. At last he did land, two or three bumps, and then – apparently slowly – the machine's nose went to the ground and gracefully it turned turtle ... The thing that amazed me was, that although the machine seemed to land so gently, the damage to it was terrific – propeller and all sorts of things smashed to bits (Orpen 1921: 33–34).

On the night of 19/20 May 1918, a German Gotha aeroplane was shot down by pilot Lieutenant Anthony Arkell and his observer Private A.T.C. Stagg, whilst flying a night patrol in Arkell's aeroplane, Bristol Fighter 4636 (see figure 44). On viewing the remains of the aeroplane, Lieutenant Arkell wrote about the propeller in a letter to his father, stating that he was 'hoping to get it as a souvenir' (Arkell 1918).



Figure 44: Wreckage of the German Gotha bomber shot down by Lt. Anthony John Arkell and Air Mechanic A.T.C. Stagg, 20 May 1918. The two-bladed propeller can clearly be seen in the foreground (© IWM (Q80749G)).

(c) Manufacture event

The recycling of a propeller into a grave marker represents the creator's individuality and resourcefulness, not the dead airman's. The propellers were a mark of identity at death as they were engraved with the deceased's rank, name, date of death, designation as being a member of the RFC or the RAF, and perhaps, means of death, e.g. 'killed in action' or 'killed in flying accident' (figure 45).

Photograph removed due to permission issue

(http://thereturned.co.uk/wp-content/uploads/2017/02/Ryder-IMG_2880.jpg)

Figure 45: Propeller grave marker that marked the grave of Lt. W. Ryder. The grave marker is now situated inside St. Peter's Church, Little Thurlow, Suffolk.

The date of death was important for it related to the last experience of the deceased.

The propeller grave marker 'has time infused in it' due to the 'manufacturing event' (Saunders 2009: 49). Somebody, possibly the squadron carpenter or rigger, devoted their time to cut the propeller down on three sides to form the appearance of a cross, the longer upright length being easier to bury into the ground for support. Time was also invested in engraving the deceased's name and date of death onto the centre of the propeller, 'a primary marker of individual personhood' (Hallam and Hockey 2001: 172), and thereby marking the aviator's presence in historical and geographical space and time. Perhaps the engraver may have been in a hurry, making a mistake in the carving of the name that he would then have to rectify, for example, see figure 46.



Figure 46: Propeller grave marker of Lt. Cutler. The name 'Cutler' was initially misspelt on the carving of the letter 'L', having to be re-carved from the letter 'E' (© author, courtesy Museum of the Worcestershire Yeomanry).

In a sense, of course, the re-working of the propeller makes it a trench art memorial as well – enhanced by its status as a metonym for the whole aeroplane, and a metaphor for all dead aviators’ grave markers, inasmuch as it may not have been his propeller – and so the symbolism becomes generic. Also, and somewhat evocatively, at least for Christian pilots, the cut-down propeller appears anthropomorphic recalling Christ on the Cross.

(d) Erection event and funeral

Arthur Gould Lee, recalled ‘this afternoon a party of us took a propeller cross made by the squadron carpenter to the cemetery at the pretty little village of Itzel, where Armie is buried, on the other side of the aerodrome. We erected it over his grave’ (Gould Lee 1969: 208–209). The erection was a very personal occasion with the colleagues of the deceased airman taking the time and effort to individualise his grave, doing their duty and ensuring it was worthy of him. Cecil Lewis remembers:

The age-old village church adjoined the aerodrome. The graves had been dug, and the Padre conducted the short ceremony at the graveside. The riggers had made crosses from four-bladed props, cutting off three blades short and leaving one long, and embossed their names on copper plates, covering the hubs where the bolt went through. We listened to those final simple words with, for my part, a sort of numbness, a feeling that this couldn’t possibly have happened, that these men I had talked and joked with a day or two back were not really lying cold and mutilated in those damp holes, the earth crushing down on their coffins. The valedictory volleys cracked and echoed in the still of the morning. The *Last Post* rang out and as if calling up into that vault of blue; but the air that had borne them was as heedless as the earth that held them now. None but the few of us who knew them would remember or mourn. There is nothing to be done about it. I remembered the cynical war-time prayer: “O God – if there is a God, save my soul – if I have a soul” (Lewis 1964: 56).

The size of the propeller grave marker immediately draws one’s gaze, directing attention, for it has become a focal point in the cemetery. It visually identified the burial of a member of the RFC and such burials became a common sight on the First World War landscape. Once such distinctive and visually salient grave markers had been erected they became symbolic objects, attracting a gathering of people, visually informing them of the death of a First World War aviator and communicating the way they should feel in terms of emotion. Indeed, Bourdieu’s (1977) concept of *habitus* recognised that objects help people learn how to act appropriately, thereby apportioning substance to the idea that objects make people (e.g. Miller 1998a: 3; Pels 1998: 101). Propeller grave markers became ‘social actors’ – they ‘do not just make a stage setting to human action; they are

integral to it' (Gosden and Marshall 1999: 169). The 'life' of these objects is thus 'significant' to bereaved relatives and aviators of the RFC 'who act in and around it' (ibid).

Brigadier-General Gordon Shephard gained his Royal Aero Club Certificate No. 215 on 14 May 1912 ('Graces Guide' website) and subsequently joined the RFC in 1912. When the war began, he flew to France with the first five squadrons on 13 August 1914 (Anon. h. 1918: 108). He died in an aeroplane accident in France on 19 January 1918 whilst flying his Nieuport Scout⁸⁹ B3610. A propeller grave marker was erected over his burial (figure 47).

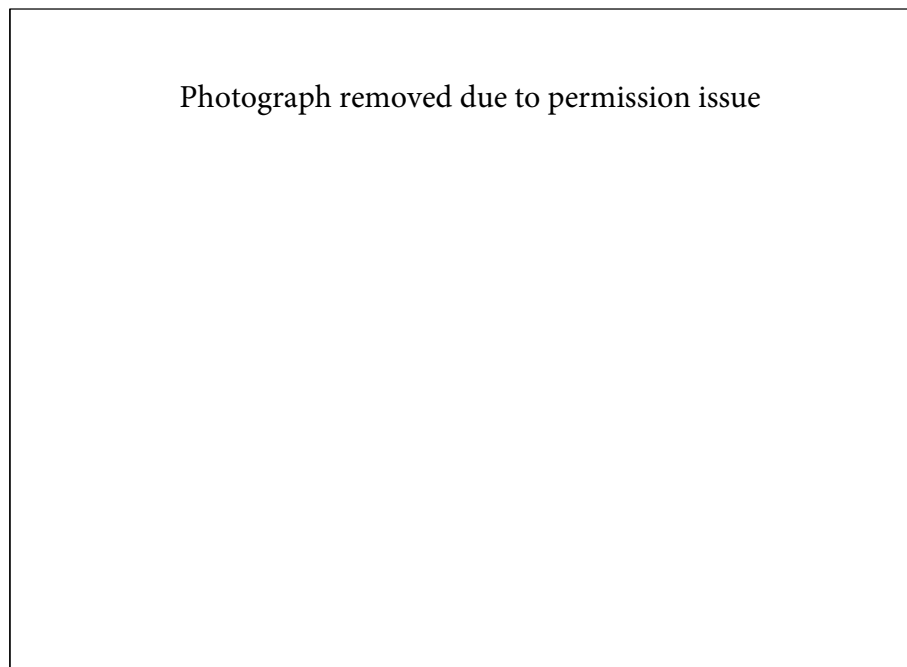


Figure 47: Propeller grave marker of Brigadier-General Gordon Shephard, with flower wreath from I Brigade (Leslie 1924: 224).

The photograph reveals that the propeller grave marker lay in a cemetery full of small wooden crosses and that there were other propeller grave markers present – a somewhat surreal earthly image commemorating violent death in the air.

On Shephard's death, Major Hughes-Hallett of the Royal Artillery, recalled their flights together and wrote to Shephard's mother. In particular he described an uneventful flight which nevertheless impressed itself on both their minds as they returned from reconnaissance over Lille during which they had been unable to discover

any hostile movement because of low-level cloud. He related how they flew for several miles just above the cloud bank as though in another world, and as if they:

[w]ere in some fairy skiff skimming over some fairy sea. There was a glorious sunshine about, no grand or disturbing masses of cloud to spoil the enchantment, and a few feet below came the vast level surface of this endless sea. We both felt a little dazed, I think, by the absolute quiet and complete detachment from a petty world we had heard of somewhere beneath us, but with which we calm beings had but little connection (Leslie 1924: 199–200).

He went on to impart that it was a dangerous trip because of the risk that an enemy aeroplane might fly up through the cloud to discover them, but, for the whole two-hour flight they were fortunate in that they did not see another aeroplane, and:

... nothing would have induced us to miss the sense of peace and detachment ...

The descent into the gloom and drizzle of petty squabbles was one of the saddest things I ever remember. I have written of this uneventful journey because we both felt the deep impression it gave, and even now at moments in my mind it is more fresh than any incident of the war (Leslie 1924: 199–200).

This is an emotive piece of prose and tells clearly of their feelings, thoughts and opinions of the war. Colleagues of the First World War dead were concerned with sparing the feelings of loved ones at home. In writing this letter in this manner, Hughes-Hallett is apparently trying to spare the mother's feelings, thus controlling her 'emotional proximity to the scene [and] screening her from [the] horror' of her son's death (Roper 2009: 206).

Not all dead servicemen were given funerals. However, a high-ranking pilot such as Brigadier-General Shephard was accorded a burial with full military honours with some twenty generals and one thousand officers in attendance. The burial was a sensorial event for it was preceded by Canadian pipers and a firing party, the noise echoing around the countryside for all to hear. It 'shaped the habitus of a community ... its culture of the senses ... the noise structuring the space across which [its] sound carried' (Corbin 1999: 97). There were numerous spoken eulogies and remembrances, a lone voice speaking clearly for all attendees to hear and focus on.

Air-Marshal Sir Hugh Trenchard wrote in a letter to Lord and Lady Shephard:

... His work in the first part of the war made him ... one of the pioneers of artillery work, that is observing from the air for artillery fire ... He also worked very hard at the co-operation of low-flying machines with

infantry, and in no small measure the success of this type of Flying Corps work was due to some of his suggestions (Leslie 1924: 231–232).

This informs us how Brigadier-General Shephard flew and the propeller grave marker is therefore representative of his skilled and sentient knowledge of flying. For example, when he observed from the air for artillery fire and successfully directed the ranging of the guns, he became the eyes of the army as he enabled those manning heavy guns on the ground to see beyond their immediate horizon, thus extending the active battlefield and creating a new killing zone.

The Germans too erected propeller grave markers over their own pilots. The German grave markers were seemingly of a different style to those of the British as depicted at figure 48.

Photograph removed due to permission issue
(<http://www.greatwar.co.uk/war-graves/german-military-burials-belgium.htm>)

Figure 48: A single propeller marks the graves of two German aviators, Menin, Brussels (<http://www.greatwar.co.uk/war-graves/german-military-burials-belgium.htm>).

Both Allied and German pilots showed a great mutual respect for each other, especially when pilots crashed and died over enemy lines. An example of where Germans did the same for a British pilot is described by Edwin Campion Vaughan, a British officer serving in the Royal Warwickshire Regiment:

... [amongst some German graves] were the graves of three British airmen, each with a neat cross erected by the Germans giving details of their ages and regiments and date they were shot down. Their broken propellers were planted at their feet (Campion Vaughan 1981: 113).

Lieutenant Denys Corbett Wilson survived 10 months in the RFC before being shot down with his observer, 2nd Lieutenant Isaac Newton Woodiwiss, on 10 May 1915. They were killed by a shell whilst undertaking a reconnaissance over German lines. A German aviator dropped a message over British lines to say that the men were both killed instantly and were being buried at a cemetery at Fourne, France – within German lines (MacCarron 2006: 166–167). The bodies of both men were exhumed and reburied side-by-side in the British cemetery at Cabaret-Rouge, Souchez, France ('CWGC' website: Corbett Wilson and Woodiwiss). Lieutenant Colonel Strange (1955 [1933]: 224) commented 'there is no doubt that today a high degree of mutual admiration exists between the survivors of the two Air Forces that fought each other so fiercely. For they are jolly good fellows, And so say all of us'.

Thus we see how both the 'community of pilots', regardless of nationality, and the ability of the propeller grave markers, transcend the division between friend and foe, and thus become a transnational symbolic object.

(e) Post-war visitation event

Returning to the Western Front after the war, ex-soldier Henry Williamson recalls walking behind what would have been the German lines and coming across the solitary grave of an un-named British airman that had a propeller for a grave marker 'with pansies and mignonette for coverlet, railed off from the cattle around the resting place of the "brave, unknown English airman who fell in battle, July 14, 1916"' (Williamson 2009 [1929]: Loc. 1048–1052).

Many of the bereaved travelled to the Western Front to find the graves of their dead relatives or, in the absence of a body, to visit one of the many memorials erected to the missing. Such visits were emotional and tactile events. It may have been that the bereaved wanted to see the name on the propeller grave marker, headstone, or memorial. The visitors took photographs of the names and, sometimes, kissed the letters of the carved name of a loved one or the actual headstone or grave marker (Anon. b. 1927: 36; cited in Lloyd 1998: Loc. 2054). Many of the visitors came equipped with tracing paper and pencil to trace the name of their dead relative (Allen 1932: 75; cited in Lloyd 1998: Loc. 2059). Evidently the name on the headstone or memorial was of

paramount importance not least because it was a final tangible connection with the deceased (Lloyd 1998: Loc. 2059) for the 'materialised name appears to be sufficient to provoke deeply felt sensations of intimacy, sentiment, and personal devotion' (Hallam and Hockey 2001: 172).

Visitors left gifts at the grave or memorial, including flowers from their own gardens, or wreaths, bestowing a 'shrine-like quality' as the graveside became 'a focus of devotion and physical contact between the dead and the living' (Hallam and Hockey 2001: 173). They returned home with mementoes from the grave, including headstone moulds, seeds from the plants growing by the headstone, or stones from the grave itself (Lloyd 1998: Loc. 2226). Such souvenirs enabled the bereaved to bring home 'a tangible link with the memory, or even the spirit of the dead' (ibid). Perhaps such souvenirs, appropriated from the immediate vicinity of the grave, could be perceived to be a gift from the dead.

Lieutenant Guy Ashwin was killed in action; he crashed through his aeroplane which broke up whilst flying at 2,000 feet.⁹⁰ In September 1914, aged 17½ years, Ashwin joined the London Regiment. In January 1915, he was posted to France and fought in several ground battles and was wounded twice. In February 1917, he returned to England to join the RFC, and, on receiving his commission, he returned to the Western Front. He was killed alongside his observer (Anon. i. 1918: 1094), and is buried in the Aubigny Extension Cemetery, near Arras, France (figure 49).



Figure 49: Lt. Ashwin is buried at the Aubigny-en-Artois Communal Cemetery Extension, approximately 15km northwest of Arras on the road to St. Pol, grave reference Plot IV, Row B, Grave 33 (courtesy of the Commonwealth War Graves Commission).

The Salvation Army organised a war graves visiting programme, and its members accompanied relatives to the Western Front ('Salvation Army' website). In the event that relatives were unable to travel, the Salvation Army arranged for flowers to be placed on the grave and a photograph taken, placed in a card alongside pressed flowers, and posted to the relative (Walton 2010). This black and white photograph shows a member of the Salvation Army visiting the grave of Lieutenant Ashwin (figure 50).



Figure 50: Propeller grave marker of Lt. Guy Ashwin, L Flight, 1st Wing, RAF. Aubigny-en-Artois Communal Cemetery Extension, approximately 15km northwest of Arras on the road to St. Pol, France (© Liz Walton).

The photograph, taken as a souvenir, can be viewed as 'a logical extension of a pressed flower, the preservation of an instant in time' (Stewart 1993: 138).

The propeller grave marker, secured in an upright position on a plinth of wood, towered over the small wooden crosses that filled the cemetery. The propeller marks the significance of the way Lieutenant Ashwin died and, if it is the propeller rescued from his crashed aeroplane, it is infused with his sensorial flying experiences. If it is not the propeller from his crash, it is representative of his sensorial flying experiences.

Arthur Gould Lee described an occasion when he and some colleagues visited La Gorgue cemetery, France, where his squadron's carpenter had erected two propeller

grave markers and encircled the graves with posts and chains. A villager had placed flowers on the graves (Gould Lee 1969: 56).

Graham Seton Hutchison (1936: 1) wrote a battlefield guide aimed at the thousands of people planning to make pilgrimages to France and Flanders to give them ‘a full and fair view of the battlefields’. He advises that whilst ‘photographs will assist imagination’, they are unable ‘to recall the voices of the night and the stench of gas mingled with that of rotting corpses’ (ibid: 194). The pilgrim tourists may have visited the French town of Saint Omer where the General Headquarters of the RFC was situated (Pulteney and Brice 1925: 80). Pulteney and Brice include a large pull-out map detailing landmarks, cemeteries, and memorials that had already been erected.

German officer, Ernst Jünger, noted that ‘the countryside was dotted about with the skeletal wreckages of downed aeroplanes, an indication that machines were playing an ever greater part on the battlefield’ (2004 [1920]: 261). Indeed, for a brutal insight into the war, visitors may have visited the Aeroplane Cemetery (figures 51 and 52), in West-Vlaanderen, near Ypres, Belgium, so named from the wreck of an aeroplane which was, at the time, preserved near the present position of the Cross of Sacrifice,⁹¹ whilst the pilot himself was buried in the cemetery (Pulteney and Brice 1925: 32)⁹² along with two other airmen who died during the war (‘CWGC’ website: Aeroplane Cemetery).⁹³



Figure 51: Aeroplane Cemetery, West-Vlaanderen, Belgium – before the CWGC erected the Portland stone headstones (courtesy Australian War Memorial, J00650).



Figure 52: Entrance to the Aeroplane Cemetery, West Vlaanderen, Belgium, after the CWGC erected the Portland stone headstones (courtesy Australian War Memorial, H12636).

The dead pilots were Sergeant Pilot Louis Gray, Lieutenant William Stubbs, and Second Lieutenant Leslie Hatten Symonds but it is not known which pilot died in the aeroplane crash. However, it is known that before his death, Lieutenant Stubbs had a near-death experience for it is reported that whilst he was flying over enemy lines:

An anti-aircraft shell came up through the floor of [his] aeroplane, passed between his ankles, through the centre section without bursting. With the control column shot away he spent the next few minutes stretching out on each side and grabbing loose ends of aileron and elevator wires. He eventually brought the machine home and landed her safely (Brewer 1948: 137).

The crashed aeroplane became a reminder of the stark and brutal realities of what it means to sacrifice one's life for one's country, portraying the particularly emotional aspects of such sites of loss in modern conflict archaeology. Its replacement by the uniform CWGC grave would not include such experience for 'in every memorial, something has been left out or forgotten ... the omission or exclusion of the pain and horror of war on those memorials' (Buchli and Lucas 2001b: 80). It is not known what happened to the crashed aeroplane but it is possible that it was souvenired or moved to a squadron's airfield for analysis (figure 53).



Figure 53: German scout aeroplane brought down over Allied lines, Western Front, France (author's photo).

Sometimes visits by the bereaved were very specific as was the visit by Mrs Bowen and her daughter in 1920. Her son, Lieutenant Eynon Bowen, an observer in No. 6 Squadron RFC, was killed on 8 September 1916. Ronald Walker, a fellow RFC officer, wrote a letter to Mrs Bowen, enclosing a hand-drawn map detailing the location of Bertangles Aerodrome where her son had been stationed:

... I am glad to hear that you and Miss Bowen are possibly going to France. I will tell you all I can remember about Bertangles, but I am afraid I do not remember the village as well as I ought to. I do not remember where Eynon was billeted before I joined the Squadron at the end of May 1916, but about a week after I got there we both took over a large room upstairs in the only château I remember in the village.

The château was a fair sized white house standing back from the main village street almost opposite a duck pond. There is a garden in front of it, over which our room looked, and the entrance is through large iron gates in a high white wall. If you follow the village street towards the aerodrome which is about a quarter of a mile out of the village westwards, you pass "B" flight (Eynon's) mess on the right.

As far as I remember it was in a white house close up to the road. Captain Swart was his flight commander – the woman in the house might remember his name.

Eynon and I used to go for walks sometimes in some woods north of Bertangles.

I am afraid I do not know anything for certain about Eynon's having been taken to St. Quentin hospital, though a man who was captured just after from the Squadron told me that Eynon had been taken there, though he had not seen him himself. I think he saw his name in a register of those admitted to the hospital. I do hope you will manage to find these places.

Our usual "beat" when flying on a "defensive patrol" was from Gommecourt to Bray. North to South and back again. ...

Yours very sincerely

Ronald Walker

P.S. A very rough map overleaf (Bowen 1915–1916) (figure 54).

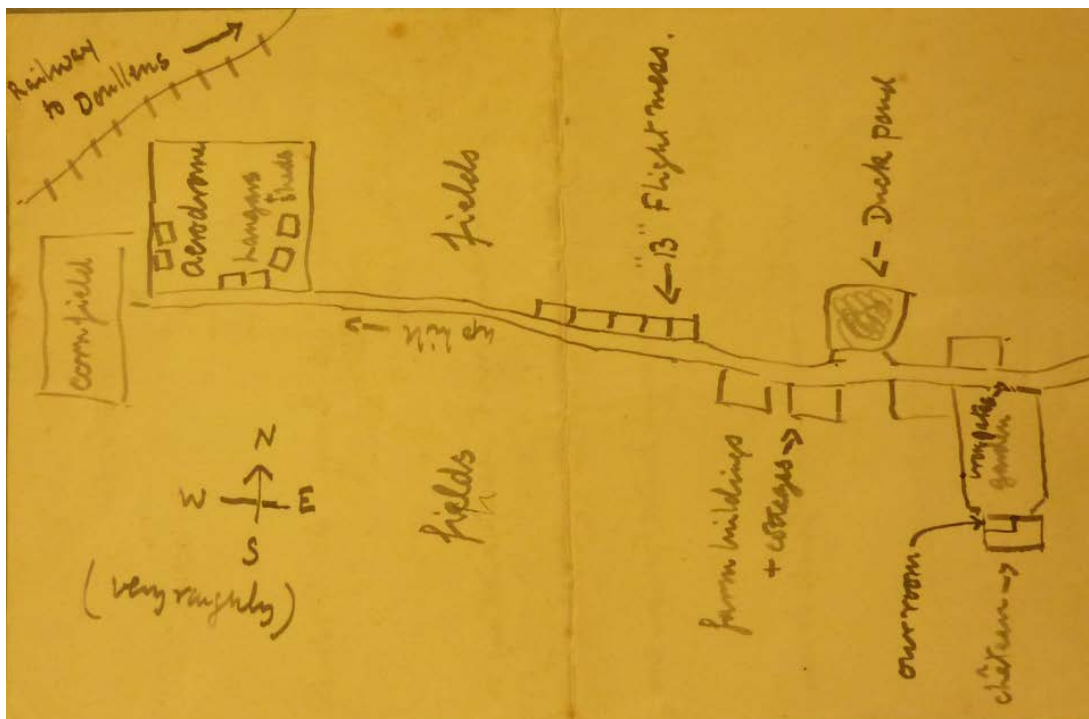


Figure 54: Sketch detailing location of Bertangles Aerodrome, France (courtesy Liddle Collection, AIR 35).

The bereaved may also have visited other aviation-related towns such as Arras, France⁹⁴ as well as the graves of flying aces. Table 4 below contains details of cemeteries visited during my fieldwork that contain airmen's graves and would have been places of great interest to the bereaved visitors.

Table 4: Examples of cemeteries in France and Belgium containing the graves of First World War aviators, visited by author in 2012.

Cemetery	Number of FWW Graves	Comments
Lijssenthoek Military Cemetery, Belgium	10,121 overall 90 airmen's graves	Location of many casualty clearing stations, close to the Front, but out of range of most German field artillery.
Longuenesse Souvenir Cemetery, Saint Omer, France	3,397 overall 149 airmen's graves	Saint Omer was the General Headquarters of the British Expeditionary Force from October 1914 – March 1916. It was also the first port of call for many aviators arriving in France en route to their squadrons.
Poperinghe New Military Cemetery, Belgium	680 overall 4 airmen's graves	Poperinghe was the nearest town to Ypres that was considered reasonably safe.
Wavans British Cemetery, France	44 overall 12 airmen's graves	Flying ace Major J. McCudden buried here (figure 55).
Terlincthun British Cemetery, Wimille, France	3,762 overall 121 airmen's graves	There were many hospitals in the area. A bombing raid at Marquise in September 1918 caused the deaths of 46 RAF personnel. Plot IV, row C contains their graves (figure 56).
Boulogne Eastern Cemetery, St. Martin, Boulogne, France	5,582 overall 12 airmen's graves	There were many hospitals in this area.
Etaples Military Cemetery, Nr. Boulogne, France	11,435 overall 63 airmen's graves	Largest military cemetery in France. Built on the site of a former hospital. Unveiled 14 May 1922 by King George V.
Laventie Military Cemetery, La Gorgue, France	495 overall 5 airmen's graves	



Figure 55: Grave of flying ace Major J. McCudden, Wavans British Cemetery, France (© author).



Figure 56: Four RFC graves, Terlincthun British Cemetery, Wimille, France (© author).

Whilst we cannot personally physically experience the First World War, we can experience an artificial version of it through the ‘edited’ landscapes offered to visitors attending organised battlefield tours which Saunders calls ‘commercially edited perceptions of reality’ (Saunders 2002a: 177). For example, *Major and Mrs Holt’s Battlefield Guide to the Somme* (Holt and Holt 1996) gives just such a version of the landscape of the Somme during the First World War according to what they perceive

visitors will find interesting and knowing that they do not have time to see everything, pointing out important aviation-related towns such as Saint Omer and Arras as well as graves of flying aces. The battlefield tours run to schedules as to what can be fitted into a day as tourists stop for comfort breaks along the way – a somewhat artificial landscape made especially for the gaze of tourists who ‘authenticated’ (Stewart 1993: 134) their experiences through the purchase of souvenirs. Such a souvenir, however, is indicative of ‘the second-hand experience of [a battlefield tourist]’ and not of ‘the lived experience of its maker’ (ibid: 135) or originator.

Visitors often purchased civilian-made trench art and the following describes the making of such which highlights the entanglements between people and objects.

As early as 1914, *The War Illustrated*, on a page entitled ‘civilian curiosity in the evidences of war’ (Hammerton 1914: 431), printed photographs of civilian children and adults searching for war-related souvenirs, such as German bullets, in Belgian countryside (figures 57 and 58).

Photograph removed due to permission issue

Figure 57: Children near Ostend, Belgium, collecting spent cartridge cases, bullets and other objects as playthings and souvenirs of the fighting (*The War Illustrated* Volume I, 1914: 431).

Photograph removed due to permission issue

Figure 58: Civilians hunting in the grass searching for German bullets and other souvenirs of the war, Senlis, northern France.
(*The War Illustrated* Volume I, 1914: 431).

On the same page on which the abovementioned two photographs were printed, *The War Illustrated* noted that '[s]ouvenir-hunting had become quite an industry where the fire of battle had raged' and it forecast with certainty the 'traffic in war souvenirs will flourish in the years to come when the battlefields are the haunt of summer tourists' (Hammerton 1914: 431). As civilians (men, women and children) who had moved to safer areas during the war, returned to their towns and villages, they had to earn money to survive. Many cleared away the detritus from the war which was either sold for scrap or became the raw material from which souvenir trench art could be made to sell to the battlefield pilgrims and visitors. Such trench art can be attributed to Saunders' sub-category 2b, i.e. made by civilians after the war during 1919–1939 (Saunders 2003a: 45–49). Pulteney and Brice (1925: 3) warned would-be pilgrims that 'metal debris is collected by the Belgians and dumps are generally noticed near the cottages. This is sold to the Government as scrap iron, so should not be rifled in the search for souvenirs'. Such souvenirs therefore were contested objects.

Souvenirs in the image of an aeroplane in the guise of trench art were made from the detritus of war for families to purchase when visiting the Western Front after the war (figures 59 and 60).



Figures 59 (Left) and 60: (Right): Trench art biplane with twin propeller blades, stamped 'Ypres'. Souvenir of the First World War (© author).

The model, depicted at figures 59 and 60 above, is characteristic of the Nieuport biplane, introduced in 1916, and flown by both the RFC and the French during the First World War. The fuselage of the model is constructed from a 7.92 x 57mm cartridge used by the French forces both in their carbines and in their Hotchkiss machine guns. The projectile is

made from cupro-nickel with a lead core. The wheels of the model are the end caps of the same type of cartridge. The wings are made from brass sheet and the struts, propeller and tail skid from copper rod and sheet – all readily available war *matériel*. The two-bladed propeller and the wheels are free-moving. The bottom wings move, whether by design, or not, is unclear, but they are only slotted into the side of the cartridge although it is more likely that the soldering work has dissolved over time.

Of significance is the etched picture of the Menin Gate Memorial to the Missing under the name 'Ypres' on the commercially made plaque. Since the memorial was not unveiled until 24 July 1927, it is clear that souvenirs were continuing to be made by civilians well after the Armistice to take advantage of the many battlefield tourists and pilgrims who visited France and Belgium. The souvenir biplane could possibly have been purchased by someone who had experienced the loss of a husband, brother, or son in the war, and/or whose name, perhaps, appears on the Menin Gate Memorial to the Missing.⁹⁵ The word 'Ypres' functions as a 'metonymic sign' for the model and may be considered as an actual piece of Ypres for the etched words become 'symbols in themselves' as they both 'transform and sacralise the [model] giving it a power it would not have without them' (Gordon 1986: 139). The model represents a miniature version of past events (Stewart 1993: xii) and a reminder of a post-war visit to the Western Front. Such souvenirs can be seen to 'possess a "sense of the sacred" which is underscored by an ambiguous tension between their associations with death and their continued life as memory-evoking objects for the living' (Saunders 2004a: 10). It is ironic too that relatives visiting the area after the war, who purchased such a souvenir, took home an object made from the war *matériel* which had caused so much misery and suffering. The trench art biplane was probably not purchased by relatives of an aviator, but future generations may perhaps, mistakenly, think that the aeroplane indicated they had a relative who was a member of the RFC. The model is valuable because of its relation to the Western Front (Stewart 1993: 135) and may therefore be used to 'authenticate a past ... experience' (ibid: 139).

As Alfred Gell observed, 'the smell of an object always *escapes*' (Gell 1977: 27) and, indeed, on receiving the model, depicted at figures 59 and 60 above, 'into my home, a smell of metal polish invaded the room' (Winterton 2012a), indicating, perhaps, that it had been recently polished by the seller from whom I had purchased it on eBay. This made me think back to the time it was bought home as a souvenir after a visit to Ypres and the Menin Gate and of it being polished by the subsequent owners periodically,

almost ritually, before I acquired it. Indeed, 'the act of polishing prompted the polisher (the initial owner) to remember a lost loved one ... The act of polishing represented a silent and emotional temporal communication linking the present with the past' (Winterton 2012a). In addition to being an object full of memories, such an 'evocative object' (Turkle 2007) had 'a profoundly healing function' (Pollak 2007: 225) as the bereaved had to come to terms with their grief. When I photographed the Ypres biplane, I polished it to make it camera ready. After only a couple of minutes, my forefinger and thumb were aching as a result of holding the Brasso-impregnated cloth too tightly as I polished trying to bring up a shine. My sense of tactility added to the palimpsest of previous owners' sensorial experiences in polishing the object.

(f) Lost or destroyed event

After the war, the CWGC dismantled the wooden crosses and propeller grave markers and gradually replaced them with the uniform Portland stone headstones we see today. Some visitors returned home with the wooden grave marker once the permanent headstone was in place (Fletcher 2013: 258) as the CWGC offered the wooden crosses and propeller grave markers to relatives of the deceased on condition that the relative would arrange to ship them home; any remaining crosses and propellers were destroyed (pers. comm. CWGC: 6 March 2017). They were often destroyed by burning in situ and the ashes were scattered across the burial ground or left in situ in the field ('The Returned' website) for nature to absorb.

Whereas, the propeller grave markers had immediately identified aviators' graves from a distance, the new uniform CWGC headstones did not for visitors had to peer closely to see the RFC crest and motto, *per ardua ad astra*, that now identified all aviators' graves (figure 61).



Figure 61: Close-up view of an aviator's grave, Laventie Military Cemetery, La Gorgue, France (© author).

Pulteney and Brice describe the new headstones for visiting pilgrims as:

A lawn enclosed of close-clipped turf, banded across with line on line of flowers, and linked by these bands of flowers, uncrowded, at stately intervals, stand in soldierly ranks the white headstones. And while they form as perfect, as orderly a whole as any regiment on parade, yet they do not shoulder each other. Every one is set apart in flowers, every one casts its shade upon a gracious space of green. Each one, so stern in outline, is most rich in surface, for the crest of the regiment stands out with bold and arresting distinction above the strongly incised names (Pulteney and Brice 1925: 53).

If the propeller grave marker was not destroyed or lost it was transported elsewhere, usually by a relative. The original propeller grave marker that marked the grave of Captain Eric Horace Comber-Taylor RAF at the Esquelbecq⁹⁶ Military Cemetery now resides inside St. Peter's Church, Twineham, Sussex, being gifted to the church by his father in the 1920s (figures 62 and 63).

Photograph removed due to permission issue
(<http://www.geograph.org.uk/photo/3805350>)

Figure 62: Propeller grave marker for Captain Eric Horace Comber-Taylor
(© Peter Jeffery).

Photograph removed due to permission issue
<https://www.warmemorialsonline.org.uk/memorial/133727/>)

Figure 63: The base of the propeller grave marker of Captain Eric Horace Comber-Taylor (© Peter Jeffery).

Originally the propeller was kept outside this isolated ancient Sussex church (figure 64). But being wood and not protected from the elements, it did not weather well, so was moved inside the church.

Photograph removed due to permission issue

(<http://sussexchurches.co.uk/images/twineham/pages/DSC00188.htm>)

Figure 64: Propeller grave marker for Captain Eric Horace Comber-Taylor
(© Martin Snow).

The wooden propeller was cut in the style of a cross by cutting three of its four blades short, leaving the remaining fourth blade as an upright. The propeller is engraved with Comber-Taylor's name, rank, RAF affiliation, date of death, and that he was killed in action. It also reads 'RIP' – rest in peace. Sometime after arriving at the church, it can be seen that an addition was made by securing it to a plain wooden cross with a small pointed roof-like structure at the top. The following words were subsequently engraved on the wooden base: 'propeller cross from the grave of his son Eric Horace, Esquelbecq Military Cemetery'.

Removed from the ground at his burial in Esquelbecq, France, the base of the marker would have had soil from the Western Front landscape clinging to it. That soil would have been transported, along with the propeller grave marker, to its final location in England, polluting the churchyard with its connection to the battles of the First World War, becoming 'matter out of place' (Douglas 2002 [1966]). A trail of memory is apparent as the propeller is connected to his grave in France; his memory exists simultaneously in two locations. People can visit his grave in France where his body is interred, or they can visit his propeller grave marker in England. The meaning, significance and value of the propeller grave marker have altered, it no longer marks a grave – in its new location it

marks the memory of Captain Eric Horace Comber-Taylor. Also, there is a real sense in which it is an example of Gell's 'distributed personhood' (Gell 1998: 21).

This propeller may be regarded as a sensorial object in that it is displayed openly in the church and, as church-goers and visitors to the church are visually drawn to it, they may be unable to resist the urge to touch and caress it. This created a 'patina of use-wear polish (caused by the wood literally absorbing [the] bodily secretions of sweat and oil' (Saunders 2014: 28) of church-goers and visitors. The date of death signifies that it is connected to the First World War, and this may ignite a particular way of emotional feeling as people are drawn into a world beyond the church as they may think about that conflict, and the individual whose name is etched on the propeller.

The propeller, through viewing it, through touching it, may provoke the experience of a whole range of emotions and feelings. However, sight of the propeller may be regulated to times of church services. In this case, Sung Eucharist takes place every fourth Sunday from 10–11am during which traditional and modern hymns are sung; and Sung Evensong every first Sunday from 6–7pm during which time psalms and canticles are sung ('A Church near you' website), thus placing this sentient object in an aural environment. Also, red poppies and wreaths may be laid on or near the propeller at the customary annual Remembrance Sunday service as 'physicality, spirituality, symbolism and emotion link the living with the dead in a complex interplay of past and present' (Saunders 2001: 477). Placing the grave marker inside the church provides a space in the world where the viewer is reminded when and how to remember.

(g) Donation elsewhere event

There was often a reason for donating propeller grave markers to particular museums. In the case of that dedicated to Lieutenant Herbert Cecil Cutler, it was given to the Museum of the Worcestershire Yeomanry because, before joining the RFC, he had served with the 2nd and 1st Queen's Own Worcestershire Hussars (the Worcester Yeomanry), a cavalry unit (figure 65).



Figure 65: Propeller grave marker for Lt. Herbert Cecil Cutler
(© author, courtesy Museum of the Worcestershire Yeomanry).

The photograph below, at figure 66, shows Cutler before he went to the Western Front.

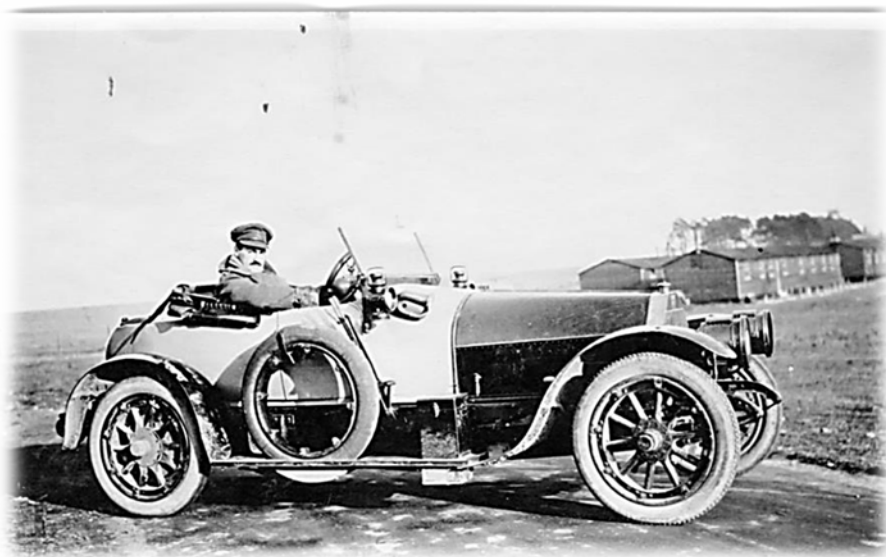


Figure 66: Lieutenant H.C. Cutler in his car in 1916, before he went to the Western Front
(© and courtesy Museum of the Worcestershire Yeomanry).

Cutler transferred to the RFC, 24 Squadron, travelling to the Western Front on 21 March 1917 as a pilot, and was killed age 26 on 10 May 1917, whilst flying a de Havilland DH2.⁹⁷ The local newspaper, the *Bromsgrove, Droitwich and Redditch Weekly Messenger* reported him as being killed in action, his death being a great shock to his father because, on the previous day, he had received letters from his son, written on the date of his

death, describing how his aeroplane had been shot away but that he had had a very narrow escape (Anon. e. 1917). He is buried in Templeux-le-Guerard British Cemetery, Somme, France (figure 67).



Figure 67: Grave of Lieutenant Cutler, Templeux-le-Guerard British Cemetery, Somme, France, Grave II.E.22 (© rememberthefallen.co.uk).

The propeller grave marker, that originally marked his grave in France, was discovered in a garden in Bromsgrove, Worcester, believed to be that of his parents. Through Colonel Stamford Cartwright TD, who was then the Squadron Leader of a local army unit near Bromsgrove, the grave marker was donated to the museum in 1982 – Colonel Cartwright is Chairman of Trustees of the museum (pers. comm. 7 September 2017). The propeller grave marker has .303 British military cartridge shells pushed through the mounting holes of the propeller, an additional embellishment of the creator and perhaps an acknowledgement of the fact that .303 ammunition was used in both Lewis and Vickers machine guns, both of which were used as the main armament on British aircraft. In erecting the propeller grave marker dedicated to their son in their garden, a private space for remembering and reflecting upon death, Mr and Mrs Cutler would be able to gaze upon it, or touch it, every day as it became a focal means of remembering their son. The propeller grave marker originated from a crashed aeroplane and its placement in their garden as a form of ‘spatialised memory making’ (Hallam and Hockey 2001: 86) ‘emphasis[ing] the poignant nature of the death it marks’ (ibid: 87) and ‘through embodied engagement with such objects, and the spaces they inhabit, the

presence of absence comes to be produced' (ibid: 85). In erecting the grave marker in their garden, Mr and Mrs Cutler could be deemed to be making a 'cultural strategy' to cope with their grief and sense of loss by sustaining some form of 'physical connection ... to build a "living" social presence' (ibid: 213) for their son.

The propeller grave marker is now displayed within a museum glass cabinet with other, unrelated, objects of conflict. It 'provides a succinct, yet powerful narrative of salvage – the object was threatened by the prospect of loss, but it was "found", retrieved and preserved in the museum' (Hallam and Hockey 2001: 124). This leads to the suggestion that the object has 'agency', as, since the grave marker was found in a garden 'it must have exercised some form of attraction at the point of initial discovery' (ibid) and, indeed Colonel Stamford Cartwright recognised its significance as the marker of a grave of a First World War aviator. On its arrival at the museum, the grave marker was catalogued and placed in a glass cabinet alongside a card bearing a brief typed description, such 'an insertion into narrative that at once "makes sense" of its very presence in the Museum' (ibid) and representing another event in its social life.

CONCLUDING COMMENTS

Taking a biographical approach reveals how the meaning of a propeller grave marker changes over time as it becomes recycled and recontextualised, illustrating connections between people and things. Propeller grave markers became distinctive and highly-visual repositories for an aviator's flying experiences, often told as stories which became his commemorative legacy as objects and their tales became entwined in social interactions. The erection of a grave marker likely influenced the thoughts and actions of others, mediating social agency, for encountering one could induce an emotional response. Once erected, the grave marker becomes an agent of communication and attraction, visually informing individuals and groups of a pilot's death. Such objects have the potential to communicate to people the way they should feel emotionally. Indeed, Bourdieu's (1977) concept of *habitus* established that objects help people learn how to act appropriately, thereby giving credence to the idea that objects make us as much as we make them as they become part of who we are (Miller 2010: 50).

Spaces attract activities and, when the bereaved travelled to the Western Front to visit the graves of their lost loved ones, the social dimensions of such visits were materialised as an 'interaction between the living and the dead' (Hallam and Hockey 2001: 87). Visitors placed, and sometimes planted, flowers by the grave, they kissed the

grave marker and traced their fingers along the inscribed name, or simply spoke the name of the dead aviator to themselves as they remembered him. Such 'embodied practices' allowed the visiting bereaved to 'create' and maintain 'memory links' (ibid: 87) with the dead, articulating the various spaces of their pilgrimage with specific levels of privately-recalled memory.

The re-placement of a propeller grave marker, from the Western Front to the Home Front, whether re-sited in a cemetery, inside a church, a churchyard, museum, or a private garden, creates a form of public or private 'spatialised memory' (Hallam and Hockey 2001: 86) that evokes a relationship between the living and the dead, providing a 'point of contact' (ibid) with the deceased that changes over time as 'the living and dead [are] provided with shared spaced through efforts of memory' (ibid: 77). Initially, the grave marker is 'infused with a bittersweet quality evoking that which they cannot replace and providing touchstones for inchoate feelings of grief' (ibid: 19). By placing the grave marker in a space of meaning, e.g. the back garden of the family home where the aviator would have played as a child, provides a visual and material focus within the arena where the social lives of his parents and siblings are played out (ibid: 87) – in a sense he is reincorporated into the everyday world of the living. This resonates with Bachelard's observation how a home, and therefore a garden, becomes a place where the passage of time is fixed – a 'fossilized duration' (Hallam and Hockey 2001: 79; cited in Bachelard 1994 [1958]: 9). Such spatialising of death, therefore, attributes particular areas with 'personalised associations' (Hallam and Hockey 2001: 80).

CASE STUDY 4

MAKING SENSE OF MATTER – FROM *BEING* TO *BECOMING*

INTRODUCTION

This case study offers the first in-depth anthropological study of aviation-related trench art. It examines the sensory and affective connections between crashed aircraft parts made from wood, metal, and linen through the study of archives, collections, and photographs, with the primary aim of extending the concept of ‘conflict air-scape’. It presents new insights into First World War aviation by revealing how the dismantling of aeroplane components and the making of trench art retains a connection to the flight experience of First World War aviators as well as creating and maintaining new relationships between objects and people.

As an example of wartime *matériel*, First World War aeroplanes possess value as anthropological-archaeological objects through their cultural associations and legacies. In seeking to document and analyse a dimension of the First World War conflict air-scape, it is important to establish the fate of the remains of numerous crashed aeroplanes – in particular the wooden propellers, linen coverings, and metal engine struts.

This chapter utilises substantive case studies to reify the stories imbued within:

- objects taken from a crashed aeroplane and retained as a souvenir⁹⁸ by an aviator; and
- pieces of crashed aeroplane, such as wood, linen and metal, that were recycled into trench art

Pilots’ experiences of the First World War became infused in objects in the guise of souvenirs and trench art whose ‘social lives’ (Appadurai 1986a: 5) have endured for over 100 years. Since things cannot be fully comprehended at just one point in their lives, and because they change throughout their existence, a ‘biographical’ approach enables us to ask ‘questions similar to those one asks about people’, the ‘cultural biography’ of an object making ‘salient what might otherwise remain obscure ... [as things] are culturally redefined and put to use’ (Kopytoff 1986: 66–67).

This case study focuses on how pieces of crashed aeroplane were souvenirised, recycled, reused, and redefined to become commemorative legacies. Such ‘objects hold

within themselves the worlds of their creators' (Saunders 2003a: 4) and are 'endowed with the personal characteristics' (Hoskins 1998: 7) of the First World War aviators, thus transgressing the boundaries between objects and people.

The objects presented here were sourced from museums, internet auction sites such as eBay, and dealers of First World War memorabilia. Quotes have been used from aviators' books and diaries to add another dimension to the objects discussed for, by placing the trench art in a historical context and linking it to written sources it is possible to 'make mute objects "speak"' (Hoskins 2006: 78).

Since this chapter explores aviation-related 'souvenirs' and 'trench art', an insight into such terms follows.

(a) Aviation-related souvenirs: an air war of 'souveniring'

Most servicemen collected souvenirs and the First World War became known as 'the War of Souvenirs' because, from 'the moment [they] landed in France [they] started collecting and giving away souvenirs' (Gwinnell 1919: 46; quoted in Saunders 2009: 43). Most aviators wanted souvenirs from the war and many were sent home to their families, or retained by the aviator himself, many with a story attached to them, be it a story of survival or acquisition. Gordon Taylor (1968: 138–139) remembers shooting down a German Rumpler reconnaissance biplane, witnessing the observer jump to his death. He was given the tail-skid from the wreck as a souvenir, writing 'I had no wish for it; but to avoid explanations I took it, and afterwards gave it to Uncle Bottom'.

The photograph below (figure 68) depicts a crashed German aeroplane being looted by souvenir hunters and it is evident that, whilst the linen insignia on the starboard side of the aeroplane has already been removed, the propeller is still intact, but for how much longer?



Figure 68: Shot-down German Fokker biplane, Cambrai front, France. The aeroplane tail and fuselage have been stripped of the painted cloth insignia by troops as souvenirs (author's photo).

Causing a German pilot to crash land on British lines, British pilot James McCudden VC wrote:

I followed the wreckage down till the Hun crashed and then landed alongside on some good stubble in order to put a guard on the Hun. I left my engine ticking over while I went to look at the Hun, and I found two groups of Australian infantry ... Everything of any value in the way of souvenirs on the machine had already gone, for although I landed a very short time after the Hun came down, the Tommies had taken everything [that] was worth taking ... (McCudden 1987 [1918]: 200).

Other aeroplane crashes completely wrecked the aeroplane (figure 69) but there were still pieces attractive to souvenir hunters, the wreckage providing completely different reifications of the flying experience for non-flyers.



Figure 69: German photograph of RFC Sopwith Pup aircraft downed behind enemy lines. A Vickers machine gun from the aircraft can be seen in the foreground (author's photo).

The picture below details the wooden propeller from a shot-down German Gotha bomber aeroplane (figure 70). The story which contextualises it belongs to Lieutenant Anthony John Arkell of 39 Squadron (Home Defence) who piloted a Bristol Fighter named 'Devil in the Dusk'.



Figure 70: Wooden two-bladed propeller from a German Gotha GV aeroplane. Height: 204mm. Length: 310cm. Width: 356mm (© IWM (AIR 209)).

The propeller bears a small brass plate commemoratively engraved thus:

DEVIL IN THE DUSK
EAST HAM
May 19 / 20. 1918

The brass plate marks historical geographical time and space. On the night of 19 May 1918, Lieutenant Anthony Arkell and his observer, Private A.T.C. Stagg flew a night patrol in Arkell's aeroplane, Bristol Fighter C4636, that he had named 'Devil in the Dusk'. They sighted a German Gotha bomber flying at 10,000 feet.⁹⁹ Arkell opened fire at a range of 200 yards.¹⁰⁰ The enemy aeroplane fired continuously at Devil in the Dusk but Arkell managed to skilfully manoeuvre in such a way as to allow his observer to find a target that offered the best possible advantage for attack. Private Stagg was able to open heavy fire upon the German aeroplane at close range. The Gotha was engulfed in flames and subsequently crashed to the ground. Lieutenant Arkell was awarded the Military Cross for conspicuous gallantry, whilst Private Stagg was awarded the Military Medal for displaying great courage and skill (Anon. k. 1918: 609), the disparity in medals highlighting the perceived differences in both rank and class as if one's social class was matched by a different ability to sense/suffer danger and pain.

The next morning, Lieutenant Arkell went to the crash site to view the remains of the crashed Gotha (figures 71 and 72).



Figure 71: Wreckage of the German Gotha bomber shot down by Lt. Anthony John Arkell and Air Mechanic A.T.C. Stagg, 20 May 1918 (© IWM (Q80749G)).



Figure 72: Informal photograph of Lt. Anthony John Arkell and Air Mechanic A.T.C. Stagg beside the wreckage of the German Gotha bomber, England, 20 May 1918 (© IWM (Q80749H)).

After viewing the remains, Lieutenant Arkell wrote about the crash in a letter to his father, informing that he ‘brought back a small bit of canvas, a bit of charred wood, and one German cartridge case as small souvenirs, but it will be topping if I can get that propeller. I also got a three-ply box that contained the belt of ammunition for the Hun machine gun, slightly charred’ (Arkell 1918). The wrecked aeroplane, now a pile of technology, and the dead pilot become interchangeable through a process of objectification providing a means of comprehending the relationship between subjects and objects as new endeavours, such as souveniring, become possible. Clearly these souvenirs and the story attached to them would provide a talking point for all who saw them for years to come.

(b) Trench art

Trench art is:

any item made by soldiers, [airmen], prisoners of war and civilians, from war *matériel* directly, or any other material, as long as it and they are associated temporally and/or spatially with armed conflict or its consequences (Saunders 2003a: 11).

Saunders’ categorisation of trench art (Saunders 2003a: 35–51) provides a useful perspective in interpreting First World War trench art. This chapter focuses on

Category 1a items, i.e. made by servicemen on active service, 1914–1918 (ibid: 40–41) and includes the subcategories: 1a(ii) letter opener made from bullets and scrap metal with a badge attached; 1a(v) miniatures, e.g. aeroplanes, 1a(vi) miscellaneous carved wood objects, e.g. walking sticks, photograph frames; and 1a(ix) miscellaneous items for personal use, made from or decorated with cartridges, bullets, assorted scrap metal, and shell fragments e.g. button hook (ibid: 38–41). Category 3(i) – commercially made and mounted on wood between 1918 and 1939 is also discussed (ibid: 49–51).

McCudden, writing about a crashed German aeroplane, reported:

Seeing that I could not do anything more, I went to have some lunch with a Sapper officer at an artillery group [headquarters] ... After lunch I restarted my engine and flew back to my aerodrome with my machine laden with various interesting fittings from the Hun machine ... To this day I have a very nice cigarette box made out of the propeller of that Hun (McCudden 1987 [1918]: 200).

Whilst James McCudden wrote that he had a cigarette box made from a wooden aeroplane propeller he had claimed as a souvenir, others had propellers recycled into things such as trinket boxes (figure 73), photograph frames, and walking sticks. All such objects were useful objects and reminders of their pre-war lives.



Figure 73: Trench art wooden trinket box made from the wooden propeller of a First World War aeroplane. Provenance unknown. Length: 18.40 cm (© Bombphoons Vintage Aviation Memorabilia).

Trench art is perceived to be the materialisation of airmen's relationships and experiences of being in the First World War and, as such, provides significant and

valuable insight into how individual aviators coped with their personally unique experiences of war (Saunders 2003a). After the war, examples of trench art 'could be seen in half the houses in Britain' (Wenzel and Cornish 1980: 6) as they became representative of meaningful First World War events and experiences.

Wenzel and Cornish's (1980: 8) account of Mrs Turner, the niece of Mabel Jeffrey, a nurse who served on the Western Front and in the Balkans during the First World War, reminisces about a trench art vase her aunt bought back from the Western Front, commenting:

Yes, that thing by the fireplace with the flowers on it is really a shell case ... from the First World War. [Aunt Mabel] brought [it] back for her parents; I thought it was an awfully morbid thing ... I could have thought of nicer things to bring back ... It got to Granny's house and then it came here ... I'd have put it under the hydrangeas. I often look at it and wonder how many men its shell killed (Wenzel and Cornish 1980: 8).

Evidently, when 'Granny' died, the vase moved to the next generation for safekeeping, though the connection to Auntie Mabel's war experiences would have been greatly diluted and the next generation might conceivably store it in the attic until, eventually, it might be sold to an antiques dealer, perhaps losing its provenance.

WOOD FROM CRASHED AEROPLANES THAT BECAME TRENCH ART

(a) Walking stick

Duncan Grinnell-Milne remembered 'on the way to the barge I passed M.C. He was whistling and slashing the heads off thistles with a cane made from the propeller of the German aeroplane he had brought down' (Grinnell-Milne 1957 [1933]: 89). Similarly, James McCudden, writing about a Morane¹⁰¹ aeroplane that was badly shot-up, wrote '... the propeller had four bullet holes in it, and at this present time I still have a walking stick made from the remains of that propeller' (McCudden 1987 [1918]: 68).

In terms of acquisition and manufacturing events, it was common for airmen to claim pieces of crashed aeroplane as souvenirs of the event and then have someone, often the squadron armourer, who would have the necessary equipment, recraft the souvenirs into trench art that would be useful and/or something that would become a memento of the crash in terms of providing a story of survival. The walking stick pictured below (figure 74) was crafted from the wooden propeller of the First World War aeroplane flown by Lieutenant Leonard Stockton Smith when he was shot down at Messines Ridge¹⁰² on 7 June 1917:



Figure 74: Walking stick made from aircraft propeller (© IWM (EPH 9305)).

The handle of the walking stick has a hallmarked silver shield-shaped plaque fixed to the top bearing an engraved inscription: 'Lt. Stockton Smith from 1 Squadron RFC. Made from the propeller of a machine brought down on Messines Ridge – June 7th 1917'. It is imbued with Lieutenant Stockton Smith's sentient experiences whilst flying during the Battle of Messines Ridge. Like most servicemen, he did not leave a diary of, or write a book about, his wartime experiences, but the writings of other pilots give us an idea of what he might have seen, heard, smelt and felt when his aeroplane crashed.

The assault on Messines Ridge, a German stronghold, was preceded by the simultaneous detonation of large mines tunnelled beneath the ridge. On 7 June 1917, fighter pilot, Captain William Bond was patrolling the front line hunting for enemy reconnaissance aeroplanes spying on the British artillery positions for the German gunners. Bond was flying at 12,000 feet¹⁰³ and he gives an account which is representative of what Lieutenant Stockton Smith may have witnessed:

... saw the battle burning ... a patch of country about 20 miles long and 12 miles deep was ... ablaze ... the fields and woods and roads were livid with the flashes of our guns – not just a dart of flame here and there, but a dancing, pricking, shimmering mass of heat.

Towards the eastern edge of the smoky belt was a constant band of white shrapnel bursts, like snowdrops overcrowded in a garden border, and before them and behind them and on both sides of them the continuous eruptions of red earth and dust where the increasing rain of high explosive shells was [sic] falling (McHardy 2007 [1918]: 166–167).

Thus Captain Bond witnessed another dimension to the war, a dimension from the air, whilst, in a different dimension, soldiers fighting in the trenches did not see the enemy

for the enemy 'was an unseen presence, with snipers offering instant oblivion to any soldier who momentarily raised his head above the parapet' (Winterton 2012b: 230).

Captain Bond had a narrow escape one morning when, leading his first patrol, he was hit by a salvo¹⁰⁴ of Archie.¹⁰⁵ He described the experience to his wife, Aimée, to whom he wrote a daily letter, as she did him:

I felt a violent shock on the joy stick. The whole machine shuddered ... I waggled the joy stick. Wing controls all right. But no, nothing happened. I looked at the ailerons. The left one moved, but the right one did not move ... The right aileron control had been shot away!

I kept my nose down, heading for home, and found that I could still get a sufficient amount of wing controls to make slow turns. Landing became a problem, as the moment I switched off the engine the right wing dropped. I flew right onto the ground, though, without smashing anything.

I have the broken parts of the rod and the armourer is going to produce some souvenir from it for you ... (McHardy 2007 [1918]: 85–86).

It is possible to see how the birth of a souvenir infused with individual meaning might come into being as Captain Bond retrieved broken pieces of his crashed aeroplane as a souvenir. He then engaged the squadron armourer to make the pieces into a walking stick, which represented the day he survived an aeroplane crash. Although pivotal to the acquisition event, Bond could not, however, claim a tactile relationship with the object borne of working the material himself.

William Bond was killed in action, flying his Nieuport Scout¹⁰⁶ B1688, on 22 July 1917, at Sallaumines, France (Shores et al 1990: 80). Pilot, William MacLanachan, (writing under the pseudonym 'McScotch')¹⁰⁷ remembered packing Bond's belongings, 'the shaving brush with the morning's soap still wet on it; all to make room for another pilot who might share the same fate within a week or a month' ('McScotch' 1985 [1936]: 89). William Bond does not have a grave but his name is inscribed upon the Arras Flying Services Memorial.¹⁰⁸ With no grave to visit, Aimée continued to write letters to her husband after his death. After attending an evening performance of a revue, she wrote to her dead husband:

The lights in the auditorium were low, and from then onwards, in that crowded smoky place, I saw you vividly. Never since the news came have I seen you so vividly. I heard what you would say as each one appeared on the stage and I heard your laugh.

Your stick, the one made from the broken propeller, with the band of the fragment of aileron control, was in my hand. It goes everywhere with me (McHardy 2007 [1918]: 275).

The stick became an object of focus in the home of the bereaved. Touching the stick, as Aimée did every day, is a sensorial act that 'evoked a different world – a pre-war life – that heightened the sense of loss [at] home' (Saunders 2007: 62). The walking stick became a somewhat poignant memento for Aimée, and, perhaps, a substitute for her dead husband. It is not known what became of the stick. At some later point, perhaps following Aimée's death, the stick may have become an anonymous object as future generations may not have known the story behind it. The immediacy of its emotional significance and value would become diluted.

The end of the First World War gave rise to examples of 'background cultural noise' (Saunders 2007: 62) as new books, magazines and films came into being. Following the war, Aimée McHardy (2007 [1918]) published her book, *An Airman's Wife*, possibly in an attempt to cope with the loss of her husband and to keep his memory alive. This book in itself is an example of material culture that owed its creation to the First World War. The publication of the letters that William Bond wrote to her, many of them love letters, clearly has the most powerful of effects on people's emotions. Such publication of private matters 'crossed the boundaries between public and private domains, existing in bookshops and libraries, from where they moved into the home to be discussed and argued about by family and friends' (Saunders 2007: 62).

(b) Landscape painting on a broken propeller

This colourful scene was painted by Corporal J. Willey, on a section of a Sopwith Camel's¹⁰⁹ wooden propeller (figure 75).



Figure 75: Section of a wooden propeller blade with a painted scene depicting a RFC aeroplane flying through anti-aircraft explosions. Dimensions: length 45cm x width bottom 20cm, width top 15cm (IWM (EPH 9961)).

In terms of acquisition and manufacturing events, the following affords the object anthropological-archaeological significance.

Willey was an artist in his spare time and specialised in painting RFC aircraft driving down Germans over the Ypres landscape, 'with kite balloons floating over shell-broken trees, clouds and shell-bursts in the sky' (Macmillan 2015 [1929]: Loc. 2783–2788). The painted scene depicts a German *Drachen* observation balloon¹¹⁰ falling through the sky in flames with a RFC Morane Saulnier BB biplane¹¹¹ flying through anti-aircraft explosions. Willey's paintings represent a 'marker of human activity' (Renfrew 2003: 144) that captured a moment of aerial conflict. Willey has thus 'seen the world, experienced it, and acted upon it, embodying and expressing that experience' (ibid: 8)

through his paintings which, in a way, offers us as viewers in the present further experiences as his 'multi-sensorial past mingles with our visual present so that we might understand and know *his* past' (Winterton 2012b: 233).

Corporal Willey gifted this particular painted propeller to Sergeant C.M. Smith, 676th Field Ambulance, Royal Army Medical Corps. The painting is infused with Willey's witnessed experiences and is a record of what he did in his spare time; it is also infused with the experiences of Sergeant Smith of the Ambulance Service. Since Willey was a servant to a padre, this may have meant that he accompanied the padre on visits to hospitals and ambulance stations to comfort wounded servicemen and he may have met Sergeant Smith on one of these visits.

In his book, *Into the Blue*, Captain Norman Macmillan remembered his Brigade padre's servant, Corporal Willey. Willey painted a similar painting on another broken propeller from one of Macmillan's own Sopwith Camels (Macmillan 2015 [1929]: Loc. 2783–2788). Macmillan's painted cut-down propeller blade might have served as a reminder of his flying experiences. After serving in France with the Highland Light Infantry for 16 months, he joined the RFC in 1916. He learned to fly and, subsequently, in 1917, joined 45 Squadron where he flew a Sopwith Strutter¹¹² biplane. When his squadron was re-equipped with Sopwith Camel aeroplanes during August 1917, he gained his unit's first Camel victory on 25 August 1917 (Shores et al 1990: 251). Macmillan related one particularly sentient memory that involved flying in the Second Battle of Passchendaele which was the culminating attack during the Third Battle of Ypres.¹¹³ He recalled flying on a reconnaissance patrol to report on enemy movements during a heavy rainstorm on 26 October 1917. Enemy movements had to be reported promptly by writing on a card which was then placed in a weighted canvas bag with red and yellow streamer tails and subsequently dropped over the designated report centre. Macmillan recalled how difficult it was to write whilst flying a Camel at low height in rough weather. The aeroplane was unstable. He could feel the heaviness of the tail. It was essential that he remained continually alert in order that he could adjust the controls to match the flying conditions whilst simultaneously looking out for other aircraft flying in the vicinity and being forever ready to dodge machine-gun fire from the ground (Macmillan 2015 [1929]: Loc. 2783–2788). The skill involved in flying an aeroplane is reliant upon the relationship between vision and touch, for example through hand-and-eye coordination, for the pilot must, at all times, maintain a look out whilst simultaneously keeping an eye on the horizon to hold the aeroplane on an even keel, or,

indeed, in any position, by reference to the horizon. Indeed, when I was in control of the Tiger Moth aeroplane in which I undertook field work, the pilot instructed me

Right, see how the nose is too high above the horizon? You've got to lower the nose. OK, so just ease the column to the right, because we need to go right to miss the rain. Ease it to the right. A bit more. A bit more. A bit more. Right, column to the left there, that's good (MW, Field Note Book: Appendix 2).

A hook has been fitted to the upper edge of the propeller painting, at figure 75, which indicates that, at one point in its social life, it was hung on somebody's wall as a memento of the war and also a visual reminder and a talking point for all who saw it. Over time, the propeller picture may have been removed from the wall on which it hung, revealing an empty patch much darker than the fading wall surrounding it and, as the people connected to the propeller died, direct memories of them would fade. The propeller painting was donated to the Imperial War Museum and is now stored in its archives, for the moment an end to its 'social life' (Appadurai 1986a: 5) as it suffers a 'social death' (Hallam and Hockey 2001: 8) – though it could be construed that this research has added a further event.

(c) Propeller photograph frame

It was common to frame photographs in trench art photograph frames such as this one (figure 76):



Figure 76: Front and back of trench art style photograph frame with photographs of unknown serviceman and his friends and family, made from the wooden propeller tip of a First World War aeroplane. Dimensions: Length: 44cm; bottom width: 22cm; top width: 6cm (© author).

I purchased this trench art photograph frame from a Belgian dealer of First World War memorabilia and bid for it on eBay, the object's 'social life' (Appadurai 1986a: 5) being 'reactivated' as a collector's item for sale as militaria (Hallam and Hockey 2001: 8) and now the focus of academic research. It is devoid of provenance. Once close relatives die, such objects seemingly end up in the possession of distant relatives to whom the trench art has no meaning or significance and it is often sold on to commercial sellers of militaria, such as those who trade on eBay. Some of the trench art propeller-tip photograph frames were plain, like this one, whereas others were works of art, often bearing intricate carvings (Marriot-Smith 1989: 40) as well as the RFC/RAF motto *per ardua ad astra*.¹¹⁴

An unknown aviator wrote 'we decided that since our lives were in jeopardy we ought to have our pictures taken to preserve our likeness for posterity' (White Springs 1966 [1927]: 73). Such a photograph has the ability to 'still time [and] create memory' (Edwards 1999: 222). The photograph of the young man wearing the uniform of a British soldier in the photograph frame, at figure 76 above, was printed on a postcard and the

photograph was taken by the London Portrait Company, 160 Victoria Road, Aldershot. Perhaps he too had his photograph taken for his family and friends before departing to fight in the war. The photograph at the bottom of the frame depicts a group gathering which could be the soldier's friends and/or family. On the reverse of the postcard-style photograph is a hand-written message (figure 77):

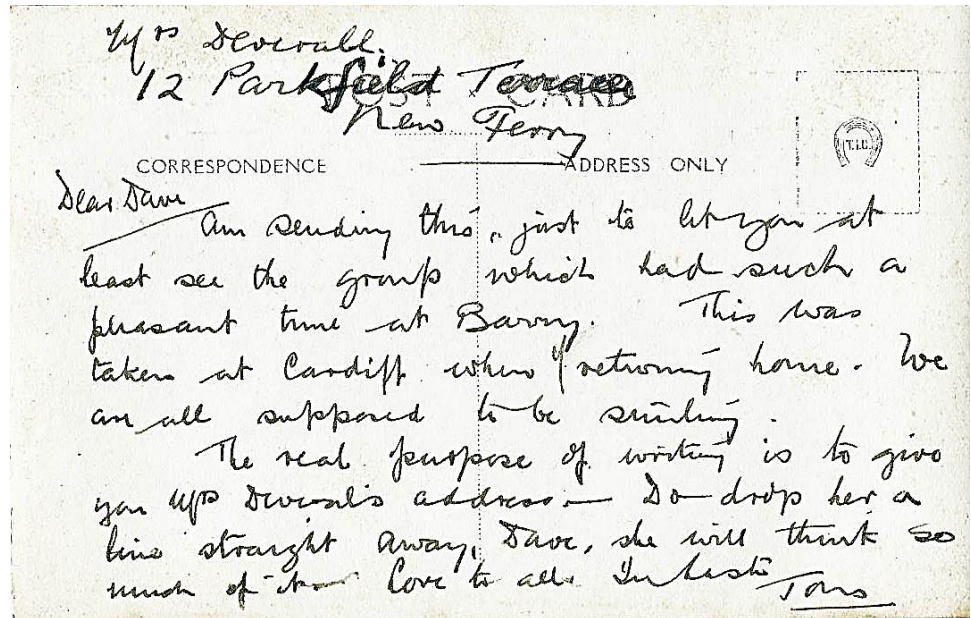


Figure 77: Text written on the back of the postcard picture of the soldier framed in the trench art propeller photograph frame, at figure 76, above) (author's postcard).

The postcard reads:

Mrs Deverall, 12 Parkfield Terrace, New Ferry.

Dear Dave,

Am sending this just to let you at least see the group which had such a pleasant time at Barry. This was taken at Cardiff when returning home. We are all supposed to be smiling.

The real purpose of writing is to give you Mrs Deverall's address – do drop her a line straight away, Dave, she will think so much of it. Love to all.

In haste, Tom.

'Tom' refers to 'the group' and 'we are all supposed to be smiling', and I believe him to be the gentleman seated in the middle of the front row of the group photograph displayed in the bottom part of the trench art photograph frame, at figure 76. Tom has given the address of the contact as being in New Ferry which is a town in the Wirral area

in the north west of England. My interpretation of this object is that the photograph is of a group of friends, or a mix of family and friends, including the serviceman, Tom, who wrote the postcard. It is possible that they were not all known to each other, only to Tom, who thereby connected them all. It seems that they all had an enjoyable and memorable holiday in Barry and returned home via Cardiff. Before Tom left for war he had his photograph taken in a studio. Whilst the photograph is the 'focus of contemplation, evocation and memory ... its material forms, enhanced by its presentational forms, are central to its function as a salient object' (Edwards 1999: 222). Tom may have had the photograph mounted in the trench-art style photograph frame, perhaps imparting the message to friends and family not to worry about him and that if he did not return then they were to remember the happy times they experienced together in Barry. He may have purchased the propeller photograph frame as a souvenir or he may have been given it by a friend or a relative, who may, perhaps, have been in the RFC. Just because it was made from an aeroplane propeller blade does not mean that he obtained it directly from a member of the RFC for these items were in open circulation as aeroplanes frequently crashed on both the Western Front and the Home Front.

The photograph frame has two nails linked by a length of shoelace-type material on the back to enable it to hang from a wall to become the subject of someone's gaze. The wooden frame is covered in dents and scratches and has a couple of deep cracks in places, held together by a glue-like substance, the glue perhaps working hard to keep the memories alive. This almost personifies the glue and suggests it is acting through a sense of purpose.

In terms of acquisition and manufacture, once the propeller had been acquired, it may have been made into trench art at someone's request, i.e. made to order, or it may have been made on spec, and perhaps sold on in an attempt to earn money. If manufactured during active service, it was probably made by someone who was in a relatively safe location. It is representative of acquisition and manufacturing events but is there a connection between the soldier in the photograph and the RFC? Many soldiers transferred from the trenches to the RFC. Perhaps Tom wished to join the RFC or maybe he had a brother in the RFC? We will never know. In terms of post-war events in the trench art's social life, it is functional in that it was made to hold two photographs. It is also ornamental and may have been on display in someone's home as an object of focus for the bereaved as emotions were worked-out as people tried to come to terms with the tragedy of war and what it had done to both them and their families. In an attempt to

find a sense of purpose, a bereaved person might adopt a means of coping with grief which might include dusting and polishing the objects connected to their loved one. The photograph frame is now the object of focus in academic research and resides in my study where it has been the subject of tactile engagement as I explored and documented it. It has been measured, polished, photographed, and dismantled to retrieve the photographs to discover if anything was written on their reverse sides in an attempt to reveal clues that would help in retrieving its story.

(d) Propeller dinner gong

Dinner gongs were popular in both Edwardian Britain and beyond 1910 when George V ruled. They were used in the homes of the wealthy to call people to dinner or to a banquet, the sound regulating people's lives as well as coinciding with the smell of dinner cooking. The sound of the gong resonated through the household for all members to hear and know that dinner was ready, and, as Walter Ong observes, where sight isolates, sound incorporates (1982: 72), shaping the household's 'culture of the senses' (Corbin 1999: 97). The dinner gong, featured at figure 78 below, was made from the wooden propeller and engine parts of a de Havilland DH5¹¹⁵ that was flown by a First World War fighter pilot whose grandchild remembers:

His propeller dinner gong was a humorous memento of his contribution [to the First World War]. As children we were allowed to sound the gong to announce Sunday lunch. It was something we were proud of because it was so unusual and made a satisfyingly loud noise ('BBC' website).

Photograph removed due to permission issue

(<http://www.bbc.co.uk/ahistoryoftheworld/objects/r9mO6jrITKeljSM-Xt4kBw>)

Figure 78: Trench art dinner gong made from wooden aeroplane propeller.

This is an ironic statement to make when one considers the reality of another type of gong used on the Western Front for, in an attempt to break the stalemate that was so redolent of trench warfare, chemical warfare in the form of gas attacks was introduced. Indeed:

The little golden gongs, like the bells of a Burmese temple, would recall men from idle tasks to the disciplines, more binding than those of religion, and in an ecstasy of terror they would thrust their heads into the masks which might save their souls "S.O.S.!" Up went the signal in rocket flares; and the cry "Gas!" echoes along the line. In British, French and German trenches, this ritual was observed ... (Seton Hutchison 1936: 255–256).

As dinner can be smelt, so too can gas, both instances of olfactory warnings – ‘the odour of gas is often likened to the smell of familiar tangible “things” on the home front. Chlorine smells like bleach (Cook 2003: 48); phosgene recalls freshly mown hay (ibid: 48)’ (Winterton 2012b: 231). As soldiers responded to the sound of a gong warning of incoming gas and the urgent necessity to don their gas masks, the grandchild of a fighter pilot recalls the sound of the dinner gong made from war *matériel* calling his family to dinner. This highlights the contradictions of warfare in terms of the crashed aeroplane from which the propeller came from, the ironies of association in terms of the smell of gas during the First World War competing with the smell of dinner in times of peace. The propeller dinner gong is a poignant memory object whose meaning has been rejuvenated from being an object infused with the narrative and ironies of conflict to become an object imbued with fond childhood memories of family Sunday lunches. It also became an object of remembrance as it is associated with a fighter pilot grandfather and therefore imbued with his wartime experiences. Such trench art links war and peace and the changing relationships between the propeller dinner gong and subsequent generations becomes apparent as it created a post-war world for survivors.

(e) Propeller clocks

Trench art was commercially produced in the period 1918 to circa. 1939 (Saunders 2003a: 49–50). This provides another important dimension for this category was produced in Britain, but conceivably also in other countries which had sent troops to fight in the First World War. Whilst some of the items were crafted towards the end of the war, most of them were made following the Armistice. Some of these objects were fashioned from war *matériel* sent home as mementos and souvenirs of conflict by the

returning aviators (ibid). They represented ‘not the lived experience of its maker but the “secondhand” experience of its possessor/owner’ (Stewart 1993: 135). Other souvenirs and mementoes could be linked to airmen’s personal experiences and would therefore ‘be ... interesting ... hav[ing] a sort of history attached’ (Castle 1919: 203–204).

There is evidently a commercial element to the trench art within this sub-category for companies advertised their services to personalise such mementos and this often involved mounting it on a decorative base, perhaps recycling it into a clock or a dinner gong. Such companies also managed to have a stock of ready-made or ready-to-be made items from war *matériel* originating from the war. Such instances are termed ‘Mounted War Trophies’ (Saunders 2003a: 49–51).

Following a strafe,¹¹⁶ pilot Vernon Castle wrote in a letter to his wife:

10 September 1916

I fired one of the guns and my ears have been ringing ever since. I bought my shell case home with me. I shall have it made into a lamp or something for Mother. Of course I’ll have a lot of souvenirs for our home. *They will be interesting after the war.* I’ve got several now, so we can give some away. Brad will want one, and Ham too. I guess one will be able to buy them after the war, *but they won’t be so interesting.* Mine will have a sort of little history attached ... (Castle 1919: 203–204). [My emphasis.]

Such letters from pilots to their wives reveal how easy it was for souvenirs from the war to enter peoples’ homes. Souvenirs of war had become a way of life and, if they had not already been made into a souvenir, plans would be underway to craft them into a suitable souvenir after the war. During the war, it was acknowledged that it is preferable to have souvenirs with some sort of authentic story attached to them for, as Captain Vernon’s letter suggests, an object would be authentic if it had a story attached to it in which case one could ask the question, is an object ‘real’ if associated with the sender but ‘fictionalised’ if just purchased somewhere?

The photographs below depict examples of the many trench art clocks that were mounted on the wooden boss that formed the centre of a propeller blade (figures 79 and 80):



Figure 79: Trench art propeller clock – original complete propeller was fitted to a 110 HP Clerget rotary engine, 1915 (© author, courtesy of the Shuttleworth Collection).



Figure 80: Trench art propeller clock from the archive stores of the Shuttleworth Collection. Provenance unknown (© author, courtesy of the Shuttleworth Collection).

The propeller clocks, depicted above, are representative of Saunders' Category 3(i) – commercially made and mounted on wood between 1918 and 1939 (Saunders 2003a: 49–51). They have no stories attached to them and were seemingly kept by the Shuttleworth Collection as examples. Such propeller clocks were produced in the thousands and varied in quality from the plain to ones that were extravagantly carved (Marriott-Smith 1989: 37). With many companies offering services to make souvenirs, it became fashionable to display such objects in the home. Visitors to the home may have assumed that they were connected to war experiences when, in fact, what they represented was a general reminder of the war. Such Category 3 items may have been displayed in the homes where the men survived (Saunders 2003a: 49–51).

Certainly such clocks would have introduced punctuality and order into the home in terms of eating at a certain time, leaving to work at a certain time, going to bed at a certain time. It would also have introduced duties of tactility into the home in terms of having to use a key to wind the clock to keep time and to manually move the second hand to correct time. Probably one hand would have to be used to steady the clock whilst the other hand would move the second hand of the clock. In a way, this would become a weekly ritual because failure to wind the clock would ensure it stopped working. Sensorial dimensions of the home would further be extended by the noise of a ticking clock and by hour and half-hourly chimes. If the clock is a chiming clock, when the hour strikes 'an inattentive ear does not perceive it until several strokes have made themselves heard' (Bergson 2008 [1910]: 127). After the clock has been in the house for a while, the occupants would become sensorially accustomed to the noise of the clock, not necessarily registering the noise of the chimes as they mingled with regular household sounds.

The clocks, at figures 79 and 80 above, are made of mahogany so would require the application of some sort of wax polish to prevent them from drying out. Such tactile activity would release smells into the domestic atmosphere, the 'act of polishing representing a silent and emotional temporal communication linking the present with the past' (Winterton 2012a).

Finally a clock representing the First World War could also be a reminder of the concept of British Summertime which was first adopted in Britain in 1916, during the First World War, when it was known as daylight saving time for the aim of its introduction was to facilitate better use of lighter hours. It was introduced to help the wartime economy; clocks went forward one hour during the spring and back one hour during the autumn, as they do today.

LINEN FROM CRASHED AEROPLANES THAT BECAME TRENCH ART

As we can see from the photograph, at figure 68 above, linen was removed from crashed aeroplanes as souvenirs. To put linen into perspective, flax to make the linen skin of First World War aircraft was initially imported from Belgium but later most heralded from Ireland. Throughout the First World War, cultivation of flax in Ireland increased from 40,000 acres to 150,000 acres ('Irish Linen Centre and Lisburn Museum' website).

Women were employed to sew linen onto aircraft wings and then paint them with dope, a poisonous substance made from nitro-cellulose. When the dope dried, the

canvas shrunk, thus strengthening the wings. However, the women undertaking this task suffered from giddiness and headaches from breathing in the noxious fumes emitted by the dope. To counteract this, women employed in such tasks at the Bristol Tramways Shed in Brislington, whilst employed by the British and Colonial Aeroplane Company Limited, were given milk to drink to counteract such effects ('Aviation archive' website), although there is no evidence of this being a successful antidote. Hence aeroplane wings already caused human suffering before they reached the theatre of war. It is a tragic irony that some of the mothers, sisters and wives employed in doping the linen may have lost their husbands, sons and brothers who flew the aeroplanes made from the linen they had sewn and to which they had applied noxious dope.

On visiting the Shuttleworth Collection, Old Warden Aerodrome (Old Warden, Bedfordshire), I walked through the workshop and experienced feelings of nausea due to the overpowering smell of dope, exhaust fumes and oil. The smell evoked a bygone era. Museum staff had thoughtfully left out samples of linen that they were using to overhaul aeroplanes in the collection thereby allowing visitors an opportunity for tangible contact. It was paper-thin, felt stiff and rough against the fingertips. Certainly my embodied engagement with material culture came into being during my research.

During the First World War, it was common for pilots to personalise the aircraft they flew by painting emblems and insignia upon the aircraft linen as a means of distinguishing them from the aeroplanes of other squadrons. Such individual markings did not meet with RFC approval although they served a variety of purposes, such as boosting morale, striking fear into the opposing German aviators, and identifying individual pilots in the sky (Velasco 2010: 8). In the early war years, the RFC was regarded as the cavalry of the air and, when war broke out, men who had been in the cavalry were deemed suitable to train as pilots (Raleigh 1922: Loc. 2845). It is not known where the idea of painting insignia on aeroplanes originated but, perhaps it had something to do with British knight heraldry¹¹⁷ as knights designed and displayed armorial bearings so that they might be identified in battle (Woodcock and Robinson 2001 [1988]: 1).

Two examples of pilots who had insignia painted onto the linen of their aeroplanes that subsequently crashed and the linen insignia removed, are detailed below with the intent of bringing the acquisition and manufacturing events of their social lives to life. Although not obvious, this is an example of trench art. Royal Flying Corps personnel painted the insignia onto the linen of aeroplanes that were 'associated ... with armed conflict' (Saunders 2003a: 11) and it is therefore attributable to Saunders'

Category 1(a), made by servicemen on active service (ibid: 38–41), although a subcategory is not provided for aeroplane linen.

(a) Black-faced devil with red horns insignia

Duncan Grinnell-Milne painted the words *Schweinhund* in large white letters on to his bright red SE5a aeroplane, number C1149, to annoy the enemy (1957 [1933]: 204). His aeroplane survived the war and he cut from the side of *Schweinhund III* the linen panel upon which the name was painted and took it home with him as ‘a vain reminder of the days of her greatness’ (ibid: 205).

The devil insignia below (figure 81) is of a snarling, black-faced devil embellished with red horns, red eyebrows and red eyes painted on a mud-brown background onto the linen.



Figure 81: Linen insignia of Handley Page O/100 1466 (Accession No. 70/C/987) (© RAF Museum).

The devil's mouth is wide-open, the whole open-mouth cavity is red as though entry into it would lead to a burning hell. This may have been a warning to the enemy as well as an act of bravado on the part of the young Handley Page crew to enemy aircraft who could outmanoeuvre the Handley Page due to its lack of manoeuvrability and slow speed.

To the bottom right of the devil's face a total of fourteen images of bombs, displayed in three rows, have been painted in orange – these may have been mission tallies and, therefore, the sign of an experienced pilot. The greyish-white painted serial number 1466 has been cut from the aeroplane's tail fabric and has been attached to the left side of the painting of the devil. The painted linen has been placed in a glass-fronted

wooden frame to become a memory object, reifying the experiences of the crew who flew her and representative of the acquisition and manufacturing events of its social life.

Rob Langham describes the events of the night of 22 August 1918 that Handley Page O/100 1466 was destroyed on returning from dropping bombs on Frankfurt. Following a forced landing at Autreville, France, early that morning, due to double engine failure, 1466 caught fire and was destroyed; only the tail survived. The engines failed because anti-aircraft fire had pierced a petrol tank causing the petrol-soaked starboard wing to catch fire. On escaping the crashed aeroplane, the crew crouched to the ground to avoid the exploding ammunition caused by the heat of the fire (Langham 2016: Loc. 2638), as though they themselves were escaping from the unbearable heat of hell advertised by their devil's insignia, the intolerable heat suggesting what it would have felt like to go to hell. I would suggest that the noise prompted an overwhelming sensorial bodily experience in terms of hearing and feeling the ammunition explode, feeling the warmth of the heat and feeling the flow of adrenaline course through the body, together with the feeling of sheer relief afforded by their escape. The serial number, 1466, was cut from the fabric of the tail probably as a souvenir – a popular action. The insignia was acquired by Squadron Commander Horace Buss of 216 Squadron (who had previously piloted 1466). It is not clear how he acquired it but he later gave it to Wing Commander Browne in 1930. Wing Commander Browne's log book reveals that he flew this last flight on 1466 (pers. comm. 6 April 2017). On receipt of the linen insignia, Wing Commander Browne would suddenly have been regaled with memories of the night 1466 crashed.

In 2013, the devil insignia featured in an exhibition of nose art at the RAF Museum Cosford, and is now on permanent display at the RAF Museum Hendon thus adding a further event to its social life and attracting the gaze of all who visit.

(b) Love heart insignia

The love heart motif came from Sopwith Camel aeroplane B6313 that Canadian pilot, Major William Barker, flew in France and Italy during the years 1917–1918 (figure 82). It was his personal insignia and representative of a reaction to an event in his life that he did not approve of.



Figure 82: Love heart motif from the linen tail fin of Sopwith Camel B6313 flown by Lt. Col. William Barker (Accession No. 79/Y/2043) (© RAF Museum).

Major Barker customised B6313 and it was redecorated to his individual preference on at least three occasions (Ralph 1999: 81). Flying first in France, Barker was then posted to the Italian Front (ibid: 141). In terms of successful 'kills',¹¹⁸ Barker did not have any in other Sopwith Camels, and no pilot other than Barker had successful kills in B6313 (ibid: 81). On his move to the Italian Front to lead 139 Squadron, he was, unusually, allowed to retain B6313 (ibid: 141). Since Chapter 4 mentions unlucky numbers, it is interesting that the digits B6313 contain the number thirteen, as well as totalling thirteen, thirteen being deemed an unlucky number (Roud 2006: 342).¹¹⁹

On transferring to 139 Squadron, Barker had a red heart with an arrow through painted on to the vertical fin of B6313 (figure 83). Two months later, the painted heart symbol was reversed, because, allegedly, Barker was so upset about his new assignment in Italy that he felt as if he had been stabbed through the heart. In a fit of pique he instructed someone to paint the arrow-in-heart on the tail, and informed any pilot who inquired that it was his own bleeding heart. He made sure that his thirty-eight victories in B6313 were marked on the left front wing strut (Ralph 1999: 142) to advertise his success as a pilot and this may also have been a means of unnerving the enemy who would know that they were facing a competent pilot.



Figure 83: Major William Barker standing in front of Sopwith Camel B6313. The white painted arrow is visible on the port side of the vertical fin (courtesy of *Cross & Cockade International*).

David Roberts' letter in *Windsock International*¹²⁰ imparts additional information useful to enthusiasts wishing to make an accurate miniature model of B6313. Whilst working at the RAF Museum Hendon, he remembered Barker's former engine fitter attending the museum to donate the fin fabric. The fitter recalled that this and some other RAF aeroplanes had had their upper and side surfaces repainted in an unspecified Italian paint following a major overhaul, which included some recovering of linen. Roberts took a Methuen sample,¹²¹ but it got lost during one of his many relocations. He recalled that the green was quite bright, like the colour of pea soup. Unfortunately, framing for display purposes had hidden the traces of green around the edges, leaving only black visible. The heart motif was painted a dark blood red, applied over an earlier version in RAF roundel red, still visible in places. Thus he is imparting information that would allow model makers to accurately reproduce the colour scheme of Barker's aeroplane. The engine fitter recalled that the day Barker left, he removed the fin fabric with a knife and handed one side each to his mechanics, saying 'Little Souvenir, fellas. Thanks for everything' (Roberts 2003: 2).

The tail fin is infused with Barker's wartime flying experiences. For example he was awarded the Victoria Cross 'in recognition of bravery of the highest possible order' (Anon. c. 1918: 14203–14204). On the morning of 27 October 1918, he attacked an

enemy aeroplane, witnessing it break up in the air. He was severely wounded in both legs and his left arm was shattered. He willed himself to remain awake and alert in order to maintain control of the aeroplane but he fell in and out of consciousness, almost losing the struggle. Despite this, he managed to fight off formations of German Fokker aeroplanes, destroying four of them. He successfully returned to his base where he crash landed (Anon. c. 1918: 14203–14204).

The effects of Barker's injuries remained with him throughout the rest of his life in the forms of visual scars and recurring felt pain – the painted tail fin is therefore imbued with bodily memory as his veteran body became a 'central recording device in terms of bodily memory' (Hamilakis 2002: 124). On viewing the scars in later life, which would probably look pale against a summer tan, he might have felt the aching of the repaired broken bones, reminding him of his sentient wartime experiences.

Barker first flew B6313 on 30 September 1917 and for the last time on 29 September 1918, by which time he had accounted for 379 hours and 25 minutes of the aircraft's total flying time of 404 hours and 10 minutes. B6313 was dismantled on 2 October 1918, and Barker attempted to retain its clock as a souvenir (Shores et al 1990: 63). But he was asked to return it the next day. Indeed, pilot Arthur Gould Lee experienced a similar problem when his aeroplane's watch was stolen by a souvenir hunter:

They are very nice watches, luminous, and keep good time, and every pilot's ambition is to win one. It is easily removed from its fitting, and when you forced-land you're supposed to take it, and put it back when you get home ... I forgot all about it. Everyone thinks I swiped [it] myself [and now] there's a howl from the equipment people, and I'm having to fill [in] forms swearing I haven't stolen it, and don't know who did. Strange they don't mind you losing an aeroplane, but a watch, now that's different! (Gould Lee 1969: 64).

The love heart insignia was displayed at RAF Museum Cosford as part of an aircraft art exhibition from December 2012 to June 2013 (pers. comm.

6 April 2017), and is now on display at the RAF Museum Hendon, thus adding another chapter to its 'social life' (Appadurai 1986a: 5) and affording the viewing public a sense of the past as they wonder why Barker had his heart broken.

(c) Linen as artist's canvas

The Germans also recycled linen from crashed aeroplanes. During the First World War, Paul Klee¹²² served in the German army and was assigned to the Workshop Company

where ‘we presented ourselves not simply as painters, but as artistic painters’. The Company clerk told them, ‘we were going to get work ... that would enable us to put our art to the test’ – they were given the job of varnishing aeroplane wings (Klee 1964: 346–346) and consequently many of these aircraft ended up resembling Klee’s fine art pieces (D’Alto 2016). He was then transferred to Flying School 5 as head painter in the Construction Squad to paint lozenge patterns on repaired aircraft (ibid: 363), such camouflage aimed at making the visible invisible (figure 84).



Figure 84: Wrecked German AEG IV bomber biplane, painted with lozenge-pattern camouflage. Hit by anti-aircraft fire, crashed in flames near Villers-Bretonneux, Somme, France, 16 May 1918 (Accession No. AO1895) (courtesy Australian War Memorial).

In an interview with Sabine Rewald at the New York Metropolitan Museum of Art, Paul Klee’s son, Felix Klee, remembered that his father painted on aeroplane linen which he had retrieved from a crashed aeroplane, cutting off pieces of linen with scissors (figure 85). He did this whilst he was stationed at the Flying School in Gersthofen where he was assigned in January 1917 to do a desk job in the paymaster’s office of the Royal Bavarian Flying School (Rewald 1988: 28, 74).

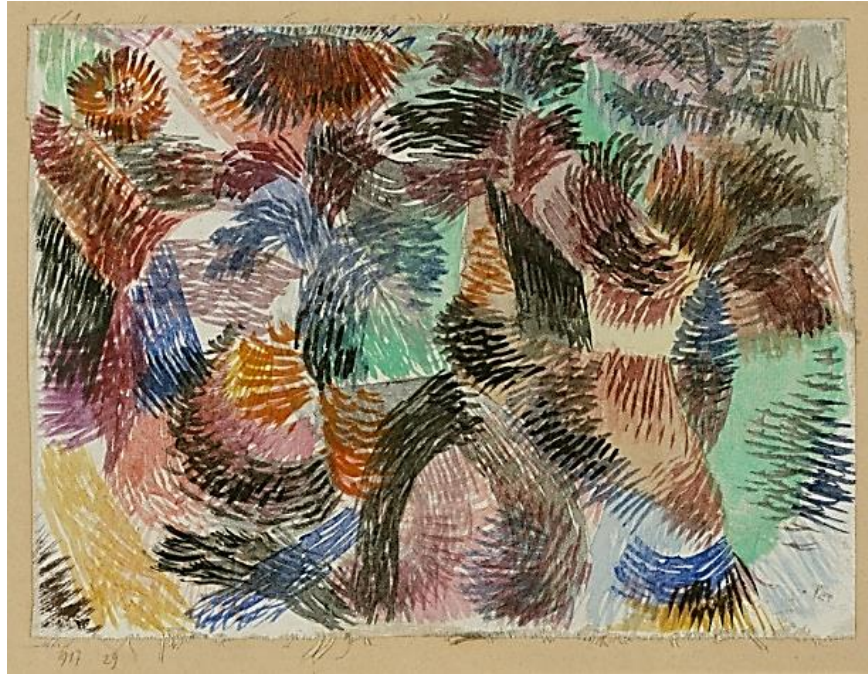


Figure 85: 'Libido of the Forest', a watercolour, painted on crashed aeroplane linen, by Paul Klee in 1917. Stored at the Metropolitan Museum of Art, New York. The Berggruen Klee Collection, 1984. Accession No: 1984.315.11 (courtesy of the Metropolitan Museum of Art, New York).

Paul Klee witnessed several aeroplane crashes, writing:

This week we had three fatal casualties; one man was smashed by the propeller, the other two crashed from the air! Yesterday a fourth man came ploughing with a loud bang into the roof of the workshop. Had been flying too low, caught on a telegraph pole, bounced on the roof of the factory, turned a somersault, and collapsed upside down in a heap of wreckage (Klee 1964: 387).

Such witnessed crashes may have influenced Paul Klee to paint *Falling and Gliding Bird* in 1919, which 'depicts a large bird come [sic] hurtling down within seconds of a fatal crash in a desolate landscape' (Rewald 1988: 98).

The scavenged linen, as an example of trench art, represents an object used in warfare that is recycled during the war and recirculated in peaceful times in terms of it being exhibited in a museum. Klee may have regarded the aeroplane linen as a 'discarded object' (Hallam and Hockey 2001: 11) and 'memories flood forward through marginal materials or objects so ordinary that they once commanded no special attention' (ibid). When gazing at the painting today, visitors likely will not know that the linen came from an aeroplane crash of the First World War. Klee was not alone in transforming war *matériel* into trench art for fellow German artist, Kurt Schwitters, did so and described his creations as 'a campaign to combat chaos by salvaging the broken pieces left after the Great War' (Cardinal 1994: 72; quoted in Hallam and Hockey 2001: 12). The linen and the

painting are infused with Klee's wartime experiences and the attendance of viewing visitors to the museum highlights unusual legacies and associations beyond the conflict that gave birth to the object.

METAL THAT BECAME TRENCH ART

The following examples of trench art have been made from scavenged war *matériel*, which may have come from a crashed aeroplane.

(a) Letter openers and button hooks

Letter openers (figure 86) and button hooks (figure 87) are two examples of functional trench art.



Figure 86: Trench art letter opener (© author).

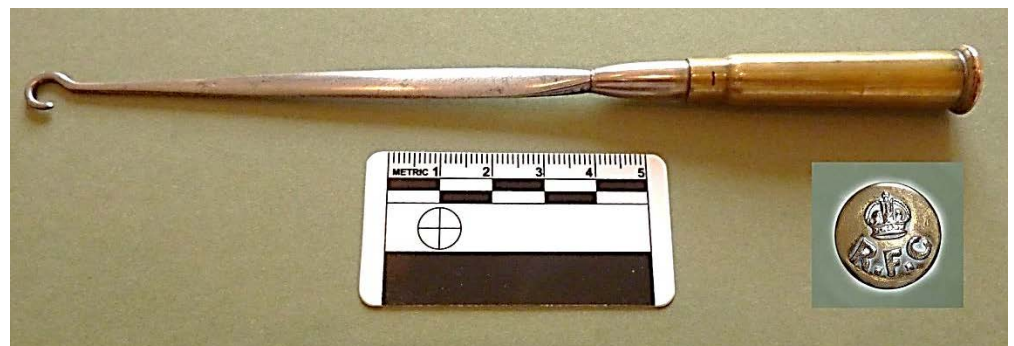


Figure 87: Trench art button hook (© author).

Machine tools would have been necessary to make button hooks so it is probable that they were made in repair shops behind the lines during the war, although they continued to be made several years after the war (Kimball 2004: 159) indicating that it is not always easy to categorise such items.

Both the letter opener, at figure 86, and the button hook, at figure 87, have RFC buttons attached to the ends. The acquisition and manufacturing events of this trench art can be connected to members of the Chinese Labour Corps.¹²³ Members of the Chinese Labour Corps, working in the Western Front area, scavenged for war *matériel*

which they used to make souvenir trench art items for soldiers and aviators from used bullets, grenades, and bomb cases (Fawcett 2000: 42). Evidently it would appear that they were skilled in the appropriation of the buttons of regiments or squadrons stationed in their vicinity. They used the buttons to personalise trench art objects which they then sold as souvenirs to the servicemen and aviators of these very same regiments and squadrons (Saunders 2003a: 41). It is likely that members of the Chinese Labour Corps continued to make such souvenirs after the war because the jobs they were assigned meant that war *matériel* was still widely available – they were employed to unearth unexploded bombs, remove barbed wire, level shell holes, and collect the remains of bodies, burying them in graves that had been readily dug by other members of the Chinese Labour Corps (Fawcett 2000: 42). The job of collecting bodily remains meant that they may have found regimental buttons but the burial of dead soldiers would have been an unwanted task for the Chinese labourers as the Chinese believe it to be bad luck to touch a corpse (O’Neill 2016: Loc. 662). Such connection to the Chinese Labour Corps contributes to the significance and diversity of the trench art’s story in terms of the varieties of human experiences that are ensconced within it, especially if one considers that, on viewing such trench art, the connection to the Chinese Labour Corps may not be apparent. Thus the adoption of a ‘cultural biography’ (Kopytoff 1986: 66–67) approach is an important route to take to unravel the relationships between objects and people. In particular, this is so because future generations could conceivably believe that a relative made the trench art thus completely erasing the Chinese Labour Corps from the acquisition and manufacture event.

In terms of the pre-acquisition events in the social life of button hooks in general, they had been used for centuries but were reintroduced by the Victorians as an accessory to male fashion in terms of fastening stiff leather buttoned boots (Brandon 2000: 3). By the 1880s button hooks were also used by ladies to fasten their boots (ibid: 19). The Victorians rarely used their fingers if an implement could be found to do the job (ibid: 3). By 1880, as people travelled more widely, button hooks became useful souvenirs of places visited such as exhibitions and seaside resorts and royal occasions, such as the Coronation of Edward VII in 1902, merited a button hook souvenir as a reminder of the event (ibid: 6). Button hooks continued to be popular and children wore gaiters and leggings well into the 1930s (ibid: 25) and they continued to be in general use until the early 1940s (ibid: 30) so it is reasonable to suppose that this, or similar, trench art button hooks continued to be used after the war, thus adding another event to its social life.

Indeed, it was common for a button hook to be readily available in the home for family members to use, for example on the mantelpiece (ibid: 26). Button hooks were not issued to aviators as official items of equipment though they may have been used by a batman dressing a pilot officer and a large number of trench art button hooks were made (ibid: 18).

Both the letter opener and the button hook are useful items and may have been used by RFC officers because: (a) the small buttons on their boots were fiddly and a button hook would have served as a useful aid for clumsy fingers; and (b) it was normal for aviators to receive post on a daily basis so a letter opener would have been a useful object to own.

I can imagine the recipient of a letter using the letter opener to hurriedly rip open a letter, the crisp noise made by the letter opener cutting through the paper envelope, becoming a regular and therefore familiar comforting noise that preceded the reading of a much anticipated letter from home. Perhaps, on days when post was delayed, a pilot might spend anxious minutes rubbing his fingers up and down the letter opener in the hope that such tactile engagement would encourage the post to arrive.

(b) Trench art models of miniature biplanes

Second Lieutenant Frank Wayman Ely hailed from Cottenham, Cambridgeshire. When war broke out, aged 17½ years, he enlisted in the Cambridgeshire Royal Engineers. After training, he was posted to France on active service for nearly 3 years. During this time, he made two ornamental trench art aeroplanes, now exhibited at the Shuttleworth Collection¹²⁴ (Anon. d. n.d.), (figures 88 and 89).



Figure 88: Model 1: Trench art model of biplane with 4-bladed propeller. Width: c. 16cm (© author, courtesy Shuttleworth Collection).



Figure 89: Model 2: Trench art model of biplane with 2-bladed propeller. Width: c. 16 cm (© author, courtesy Shuttleworth Collection).

Such trench art aeroplanes were popular undertakings and are representative of Saunders' trench art subcategory 1(a)(v), i.e. trench art that has been made whilst on active service (Saunders 2003a: 38–41). The museum has captured the individuality of Lieutenant Ely in its display of his models and, importantly, the display includes details of how the models were made (Anon. d. undated)¹²⁵ – information not often available as servicemen rarely described such details. These trench art models embody the passing of time (Saunders 2009: 49) which began when Lieutenant Ely created his tool kit. Evidently, he was not in possession of a screwdriver because he used a broken penknife to do that job. He also fabricated a home-made vice. Then followed the 'acquisition event' (ibid: 49) as Lieutenant Ely set about collecting the war *matériel* he used to make the models which he did whilst a soldier with the Cambridgeshire Royal Engineers. Some of the brass parts originated from the ruined organ in Arras Cathedral after the building had been shelled, perhaps an incidence of Ely indulging in 'souveniring' as servicemen obsessed with finding souvenirs and trophies of war. During the 'manufacturing event' (ibid: 49), Ely spent many hours laboriously making up the brass parts that were to be component parts of the models. Thus the two models represent 'semantically dense item[s] that embodied periods and places scattered across the battle-zone landscape' (ibid). The models 'embody a ... long, drawn out production process ... [and] these temporally dispersed periods of in-the-field manufacture could imbue the object with yet more quotidian significance, trapping individual experience in metal ... In one sense, component parts and creative moments might be seen as examples of Gell's idea of distributed personhood (Gell 1998: 20–21)' (Saunders 2009: 50).

In 1917, Lieutenant Ely responded to a call for volunteers to join the RFC and returned to England where he successfully trained and was commissioned as a Second Lieutenant. He resumed active service in France in 1918, but, after only 14 days of flying, he was killed when his aeroplane was brought down in flames – just 28 days before the Armistice¹²⁶ was signed. Lieutenant Ely has no known grave and his name is inscribed on the Arras Flying Services Memorial at Faubourg-d’Amiens Cemetery, Arras, France, a memorial to the missing constructed to commemorate those who were killed in the Arras area from spring 1916 to August 1918.

Ely took the time to express himself through being creative with war *matériel*. Ely’s trench art was probably not made whilst in the trenches but away from enemy lines during a period away from the trenches, a period where he could rest from being in survival mode. His trench art reveals how he spent some of his spare time and how he coped with his experiences of being a soldier in the First World War. The fact that he made models of biplanes may be an indication of his interest in, or intent on, becoming a pilot in the RFC, a mission he clearly achieved. He may have given the model aeroplanes to his family before he died, or they may have been returned to the family upon his death, and subsequently transformed into a household ornament.

What is not apparent in the display of the two models is that they are modern trench-art replicas of First World War trench art originals. Evidently the originals were stolen several years ago and the Museum’s Chief Engineer crafted replicas working from the clear photographs that they were lucky enough to possess (pers. comm. 4 July 2017).

Kopytoff’s (1986) biographical approach to objects facilitates the identification of the ‘acquisition’ and ‘manufacturing events’ (Saunders 2009: 49) in the ‘social life’ (Appadurai 1986a: 5) of the material investigated here. In particular, the model biplanes crafted by Lieutenant Ely from war *matériel*, some of which he had personally ‘souvenired’, embody and reify the circumstances of acquisition. This makes apparent how ‘new meanings saturated matter in the initial stages of the production’ (Saunders 2009: 43) and the crafted model biplanes become ‘attached to the individual through a range of memory making events’ (ibid). Such attachments could be seen as authenticating the object in terms of wartime experience. The biplane models reveal Ely’s individuality and creativity, and as war *matériel* was ‘transformed, symbolically and physically’, the resulting trench art items becoming ‘a hybrid that represented [an aviator’s] individuality – a meshing of personality, physical skill, wartime experience, and

available raw material' (Saunders 2009: 46). Ely did not survive the war and the model biplanes he made became his memorial. Now on display at the Shuttleworth Collection within the confined space of a glass cabinet, these objects are 'three-dimensional biograph[ies] of war experience' (Saunders 2003a: 75) and a legacy of conflict.

CONCLUDING COMMENTS

This case study acknowledges the enduring nature of material culture representations of First World War conflict air-scapes. Whilst the industrial warfare of the First World War, a war of *matériel*, caused unprecedented death and destruction, this case study establishes that it also instigated creativity and individuality in unexpected ways that became the commemorative legacies of the aviators.

Pieces of crashed aeroplane were turned into trench art some of which found a resting place as memory objects in focal positions in the domestic household. They created a new sensorial world for the bereaved as the 'emotional atmosphere' (Penartz 2006: 95–106) within the household altered. We can speculate that routine domestic chores became sacred as the trench art was cleaned, the dust perhaps causing the bereaved wife or mother to sneeze, and the odour of the polish used to maintain its appearance became an olfactory connection to the memory of a lost loved one. Such tactile contact with the trench art as it is dusted and polished 'recovers times past and stimulates memory' (Hallam and Hockey 2001: 84). Through such 'embodied engagement' with the trench art within the space of the home, 'the presence of absence comes to be produced' (ibid). Invariably it is 'through the conjunction of material spaces, bodies and objects' that memories of the aviators are 'sustained and managed' (ibid: 100).

The post-war biographies of First World War aviation-related trench art and/or souvenirs and the way they affected the lives of those living during the interwar years has been conceptualised by Saunders as the 'memory bridge' composing, during a period of great social, economic and cultural change, a 'bridge composed of materiality, emotion and memory ... accorded shape to peoples' lives as well as their perceptions of the First World War' (Saunders 2001: 477–478). Such objects became legacies associated with First World War pilots, bestowing on them a powerful presence today rather than being the 'trivia' or 'bric-a-brac [found] in middle-class households and in working class homes' (Mosse 1990: 126). In reifying the stories imbued within them it is clear that 'objects stimulate remembering, not only through ... mantelpiece souvenirs, but also by

the serendipitous encounter, bringing back experiences which otherwise would have remained dormant, repressed or forgotten' (Kwint 1999: 2).

ANALYTICAL DISCUSSION AND CONCLUSIONS

This thesis has presented an alternative view of First World War aviation by describing and analysing the sensorial engagement of aviators with the aircraft they flew and the material worlds they created as reifications of their experiences. This approach has drawn on and complements the traditional knowledge and understanding of military/aviation history.

Given the complex set of overlapping issues encountered in this study, I have adopted an inter-disciplinary material culture approach in an attempt to produce cross-disciplinary perspectives and understandings to address the roles of materiality, sensoriality and technology in First World War aviation conflict. This moves beyond processual paradigms that analyse the form, materials, and method of manufacture of an object and casts aside Cartesian dualisms of object and person acknowledging that 'the continual process by which meaning is given to things is the same process by which meaning is given to lives' (Miller 2002 1994]: 417). In their place, this thesis 'centres on the idea that materiality is an integral dimension of culture, and that there are dimensions of social existence that cannot be fully understood without it' (Tilley et al 2006: 1). Illustrating this, I have focused on being in a First World War aviator's haptic air-scape, an aviator's use of lucky mascots and his individualism in creating, directly or indirectly, trench art objects which become repositories for experience and memory.

ANALYTICAL DISCUSSION

Human beings are both situated in and inseparable from the world that surrounds them (Heidegger 2005 [1962]). As a war of *matériel*, the First World War has many hitherto unexplored dimensions that are amenable to anthropological analysis. Here, each dimension is analysed and contributes to the definition of a First World War conflict air-scape.

An interdisciplinary approach enabled the adoption of a 'sense-scape' (Leonard 2017; Winterton 2012b, 2017) perspective to analyse a First World War aviator's haptic experiences between 1914 and 1918 in terms of his relationship with his biplane. The idea of haptics (Gibson 1986 [1979]; Paterson 2007; Rodaway 1994), the sense of touch

in all its forms, was used as an analytical tool to formulate a 'sensory signature' (Skeates 2008: 209) that structured an aviator's sensory experiences in his material world.

By employing haptic analysis in conjunction with other senses to understand experience, a 'pilot culture', and how technology changes the sensorium, it was possible to conceptualise a First World War aviator's quotidian experiences and sensations. The foci of this conceptualisation, and, therefore, the elements of a First World War aviator's sensory signature (Skeates 2008: 209), were the cultural transformations of the human body; the reconfiguration of the pilot's senses; aviators' cultural perceptions of time, space, speed, and distance; the cultural reconfiguration of natural phenomena such as air and cloud; and the experience of new corporeal feelings as aviators adapted to the physical and environmental constraints afforded by flying an open-cockpit biplane.

An aviator's haptic senses may be seen 'both as a relationship to a world' – an air world – and 'the senses in themselves a kind of structuring of space and defining of place' (Rodaway 1994: 4). The RFC was a 'cultural community' (Geurts 2002: Loc. 197) in which a pilot's sensorium privileged different types of touch and their relationships with other senses, such as sight, smell and hearing. A pilot's senses and movements provide 'specific ways of entering into [a] relationship' with the aeroplane, the flying of which provides a 'momentum of existence' (Merleau-Ponty 2002 [1958]: 159).

Flying an aeroplane depends on a number of perceptual abilities that are necessary to comprehend form, depth and motion, and thus haptics is a powerful way of understanding the sense dimension of a First World War conflict air-scape. Contributing to a definition of such an air-scape is the notion that 'we are full-bodied beings with the capacity to learn about the world through all our senses' (Classen 1999: 278). Perception, a non-dualistic approach to materiality and culture, is, therefore, of key importance when it comes to a pilot comprehending his lived-in world and this is not solely a biological or physical process but it is also culturally determined (Howes 1991). The world does not come ready made. In acknowledging Merleau-Ponty's (2002 [1958]) primacy of perception and recognising it as 'an archaeology of perception, attempting the understanding of social, cultural, and psychological mechanisms of the manifold of touch' (Paterson 2007: Loc. 129), haptics may be used in a descriptive sense to highlight what is significant and yet not obvious concerning a First World War pilot's quotidian experiences and sensations.

A first step towards an interdisciplinary approach to investigating the haptic experiences of First World War aviators, was to review their letters, diaries, memoirs,

and books for primary evidence of 'sensory communication' (Classen 1997: 401). The act of writing their diaries was a deeply tactile experience in itself. The document collections held by the Imperial War Museum (London), RAF Museum (Hendon), and Liddle Collection (Leeds University) were consulted together with books published by the aviators themselves. Such texts were carefully examined and 'all the references to the senses' were extracted in line with Howes' and Classen's 'paradigm for sensing and making sense of other cultures' (1991: 261). It is acknowledged that reading aviators' texts only permits a representation of the senses relating to the producers of the texts as well as representing the sensory subjectivity of myself (ibid).

A second step towards an interdisciplinary approach to investigating the haptic experiences of First World War aviators was to adopt a participatory anthropological approach to fly and experience being in an open-cockpit biplane. My observations and feelings about the flight were written up in a field note book to account for the phenomenological reality of the way my research was undertaken (Pink 2009: 121). No First World War service personnel are alive today, so first-hand participant observation of flying biplanes (or modern replicas) was as near as one can get to appreciating their experiences between 1914 and 1918. Such experiences provided a lens (however imperfect) to assess their letters, diaries, and books, and thereby bring to life the flying culture of the RFC and the materialities of their haptic experiences. Such a reflexive and embodied approach has added texture to understanding rather than reproducing the haptic world of a First World War pilot which, as Stoller (1989: 7) observes, advocates that the ethnographer engages with the ideas of others through their own sensorial experiences.

For a pilot, the senses of touch provide a warning system as regards his well-being, a means of communication and of verification. This has parallels to Hegel (1770–1831) who treated the senses, and the related parts of the body as symbols of the self, as survival mechanisms, and as instruments of communication (Hegel 1975; quoted in Synnott 1991: 72).

In terms of communicating with personnel on the ground, observers were trained in Morse code, thus endowing their hands with the ability to 'speak', such re-configured 'speech' becoming tactile and silent as it grasped this new technology. In addition, flying an aeroplane alters how a pilot sees for vision is no longer an objectifying sense as the pilot's trained eyes must focus on the horizon as he scans the environment ahead, forever alert. Agreeing with Ingold (2000: 287), who suggests that vision should be

understood in terms of its interrelationship with other senses, flying an aeroplane involves skilled bodily movement in the form of haptic responses as the pilot has to react to flying conditions. Although pilots avoided flying in bad weather, they sometimes could not avoid it and became disoriented due to decreased visibility caused by rain or clouds, for example. In such cases, a pilot would be dependent upon his senses of hearing and feeling. He listened to the noise of the wind on the aeroplane and interpreted the feel of the wind on his face in order to orchestrate his haptic flying responses as sight became dominated by hearing and feeling. Natural phenomena, such as air and clouds, were culturally reconfigured and used to gain tactical advantage – clouds were used as aerial camouflage to hide from an enemy aeroplane whilst pilots flying aeroplanes that caught fire flew a sideslip manoeuvre to use the air to extinguish the fire.

In a similar fashion, sound was important to a pilot who flew during the night as he became increasingly responsive to the sound of his engine, his body experiencing an increased intensity of being alert as he had to compensate for his reduced vision. This 'sensory tuning is conditioned by culture, environment, technology, ... experience' (Boivin 2008: 98) and accrued learned flying skill. Aviators' senses were re-configured and culturally constructed as they learned to engage with a new way of moving and the human body became the 'pilot body'. The sentient pilot 'body has a history and is as much a cultural phenomenon as it is a biological entity' (Csordas 1994a: 4). The First World War pilot body became 'at once tool, agent, and object' (ibid: 5).

Aviators experienced the emotions of fear and anxiety on a daily basis. The idea of haptics also incorporates the sense of touch in its metaphorical form, e.g. touching experiences that encompass emotions (Wyschogrod 1981, cited in Paterson 2007: Loc. 386). Since emotions are cultural (Tarlow 2000: 728), they are predisposed to archaeological study for they are 'historically specific and experientially embodied' (ibid: 713), and, therefore, a significant means of enriching the archaeological and anthropological interpretation of the dimensions of a First World War aviator's conflict air-scape. Aviators turned to superstition to combat their fears and anxieties. Such belief in superstition is a dimension of an aviator's social existence that should be considered within the context of culture. As such all examples of superstition identified in this thesis were categorised to define the circumstance of how such objects came into being:

- A Commercially made, sold as a lucky charm (14% of research sample);
- B Charm with religious significance (7% of research sample);
- C Lucky pocket piece, often with survival story (14% of research sample);

- D Lucky sayings, omens and rituals (11% of research sample);
- E Traditionally associated with good luck in folklore (15% of research sample);
.....and
- F Personal object infused with special/intimate meaning, personal to the
.....aviator (39% of research sample).

My categorisation of the different types of mascots carried by First World War airmen informs us of their attachment to lucky mascots and thus contributes to our further understanding of being an airman in the First World War in a more subjective and nuanced way, as their relationship with such objects opened up a source of communication and expression within their social world. Additionally such categorisation suggested the type of theoretical consideration that could be given, that, in turn, contributed to the wider analysis.

Things are never magical by themselves for they require the intervention of human intentions. Many lucky mascots were given to aviators as gifts. The giving of gifts to bring luck, or encourage survival, makes specific relations with people apparent as the person who gives the mascot becomes an 'agent' (Gell 1998: 16) who intends for the mascot to protect the receiver. The aviator in receipt of a mascot as a gift has a reciprocal obligation to survive the war and Mauss's 'theory of the gift' (Mauss 1990 [1954]) is evidently 'a theory of human solidarity' (Douglas 1990 [1954]: xxiii). The aviator in receipt of such a gift and who subsequently carries it, wears it, or attaches it to his aeroplane, is sending a message to his social world – he is perhaps not so confident in his own flying skills that he would not accept help from a lucky mascot.

Gell's theory is a valuable theoretical tool because the notion of objects possessing agency looks beyond Cartesian dualisms of persons and things and explores how "'objects" merge with "people" by virtue of the existence of social relations between persons and things, and persons and persons *via* things' (Gell 1998: 13). Such 'social relationships form part of the relational texture of social life within the biographical (anthropological) frame of reference' (ibid: 26). Gell is concerned, as am I, with the 'second-class agency which artefacts acquire once they become enmeshed in a texture of social relationships' (ibid: 17), or things that are made as a form of instrumental human action. By carrying such things as a piece of shrapnel, or bullet, from a crash the pilot survived, the pilot is exercising his own agency by recycling such things (i.e. agents of killing) into lucky pocket pieces.

Thirty-nine per cent of the sample of mascots came from Category F – personal objects infused with special/intimate meaning personal to the aviator. Such items were either owned by the pilot or an item endowed with personal meaning, perhaps memories, and given to the pilot for luck. Such mascots can provide individual stories as they are imbued with individual experience and indicate strong emotional links to home and family, particularly outlined in aviators' letters home.

Lucky mascots, particularly with a religious connection such as a prayer or a bible, often became part of the body worn next to the skin, as if they had to touch the aviator's living body, adjacent to his beating heart, for it to be effective. Indeed, if we consider it an extension of the body, we deconstruct the Cartesian distinction between self and other or person and thing. Such objects signified intense personal attachment and a heightened sense of intimacy which 'embodied, bridged and transformed the material, social and imagined worlds' (Saunders 1999: 243) of First World War pilots. Mauss (1979 [1935]) believed that the first human artefact is the human body itself, and that action by and upon the body is the core to understanding culture. Whilst objects may be considered extensions of the human body, the body itself may also be considered as a 'thing' to adorn in order to relay a message to and about one's social world. In fact, it can be argued that it is the merging of such adornments and the body that create the entity of the 'social body'.

Fifteen percent of the research sample suggests that aviators' lucky mascots were associated with good luck in traditional folklore, which then transformed into a folklore of flying. The aviators could be seen as preserving superstitious customs and popular beliefs as folklore and ethnic heritage. These beliefs exhibit parallels with Malinowski's ideas (2015 [1922]) when he observed the close relationship between myths and magic for the Trobriand islanders of Melanesian New Guinea for whom magic and myth was an everyday necessity, accompanying all practical activities, and forming an integral part of their culture and daily life. Myths provided practical rules for the performance of ritual and of technical aspects of life, and for the Trobriand islanders, were used in their canoe-building activities. In one sense it can be suggested that there is an analogy between the fishing canoes of the Trobrianders and a First World War aeroplane. The canoes were decorated with the carving and painting talents of the Trobrianders and infused with their hopes and fears, and that their knowledge and skill would ensure that the built canoe would be stable and swift (ibid: Loc. 2528). First World War aviators similarly decorated their biplanes and embodied their own fears and anxieties in their

technologies via ritual behaviour. As magic put 'order and sequence' into the activities of the Trobrianders and inspired them with confidence (Malinowski 2015 [1922]: Loc. 2535), so it did for First World War pilots.

At the start of this research, it was intended to have three case studies where Case Study 3 was about aviation-related trench art – including propeller grave markers. It became clear that it would make more sense to allocate propeller grave markers into a separate case study because they caused bereaved relatives to visit the graves on the Western Front. It was also clear that there were two levels of 'souveniring'. First, by the aviators themselves as they removed souvenirs from aeroplane crashes. Second after the war civilians scoured the Western Front for war *matériel* in order to make trench art to meet the demands of bereaved relatives and curious battlefield tourists. The acquisition and manufacturing events for the aviator-related trench art and the commercially produced civilian trench art, though both commemorative legacies of the First World War, are very different and better attributed to separate case studies.

I identified seven events, or social interactions, that may apply to the 'social life' (Appadurai 1986a: 5) of a propeller grave marker:

- (a) pre-acquisition event;
- (b) acquisition event;
- (c) manufacture event;
- (d) erection event and funeral;
- (e) post-war visitation event;
- (f) lost or destroyed event; and
- (g) donation elsewhere event.

Such a 'cultural biography' (Kopytoff 1986: 66–67) approach to propeller grave markers afforded their stories new depth and dimension. These events impart new layers of meaning not only to the propeller grave marker but also to the war in the air overall thereby contributing to my definition of a First World War conflict air-scape. The seven events invest the grave markers with significance and meaning in terms of the social interactions within which they find themselves immersed in.

What happens before and after the erection of the grave marker – in terms of the pre-acquisition, acquisition, and manufacture events – is of significance to the anthropological and archaeological interpretation of the marker. Materiality is a cultural process and:

[i]n a sense, looking at what happens before and after the artefact is more significant than the artefact itself; that is, the terms of materiality rather than material culture itself and the differential ability of individuals to participate in these processes is more important (Buchli 2002a: 18–19).

By utilising first-hand evidence from aviators' diaries, letters and books, it was possible to enable these 'mute objects to speak' (Hoskins 2006: 78). This added further dimensions to Kopytoff's cultural biography approach. The propeller grave markers were repositories for an aviator's conflict flying experiences. As such, it is the story of both the aviator's death (the pre-acquisition event) and how the propeller came to be acquired, for example by 'souveniring' (acquisition event) and the grave marker's subsequent manufacture event that contributes to the overall value, meaning, and significance of the object as a commemorative legacy.

In terms of the manufacturing event, the propeller grave marker 'has time infused in it' (Saunders 2009: 49). Someone cut the propeller down to size and engraved the deceased's name and date of death onto its centre, thus marking the aviator's presence in geographical and historical time and space. As the propeller is recrafted, it becomes a trench art memorial that may be regarded as a substitute for the biplane and symbolic of all the grave markers of dead aviators.

The placement of a propeller grave marker on the Western Front creates a form of 'spatialised memory making' (Hallam and Hockey 2001: 86) that 'emphasises the poignant nature of the death it marks' (ibid: 88), more so because it is placed amongst hundreds of graves of young men who were killed in conflict. Visitors touched the grave, and even kissed it, such tactile connection being emotionally driven as the bereaved attempted to make sense of their loss, their touch becoming expressive. Pilgrim tourists returned home with mementoes from the grave which could be regarded as a gift from the dead. For example, they removed seeds from the plants growing by the propeller grave marker. These were planted at home, maturing into plants or flowers that were visually colourful, brought to life as they swayed in the breeze, perhaps emitting a scent, such sensorial experiences of the living invoking the memory of their dead loved one.

Wherever the propeller grave marker is placed, whether the initial placement on the Western Front, or its re-placement, such 'ritualised placement ... maintains the material culture' (Hallam and Hockey 2001: 88) of being an airman in the RFC as though the aviator were still alive as the propeller is moved from a crashed aeroplane to the

grave or beyond. Therefore, 'past presence and present absence are condensed into the spatially located object' (ibid: 85), the propeller grave marker.

The cultural and object biographies of trench art made from pieces of crashed aeroplane constantly introduce new meanings as new connections with other people and institutions, such as museums, materialise. The 'social life' (Appadurai 1986a: 5) events identified for each object discussed might include some, but not all, of the following:

- (1) pre-acquisition event;
- (2) acquisition event;
- (3) manufacturing event;
- (4) objects of focus in the home of the bereaved;
- (5) object of focus in the home of an aviator who survived the war;
- (6) object suffers 'social death' (Hallam and Hockey 2001: 8) as it is stored out of sight in cupboard, garage, attic or archives);
- (7) object 'reactivated' as collector's item for sale as militaria (Hallam and Hockey 2001: 8);
- (8) museum exhibit; and
- (9) academic research.

My biographical approach to aviator-related trench art reveals a post-war world where people's front rooms contained trench art and souvenirs of the war as objects of focus. These encouraged the bereaved to dust and clean them and this created a sensory domestic world as polish released smells. Sounds emanated from objects like propeller dinner gongs and ticking propeller clocks that structured the household in an audible timely manner. Such objects became the focal point of attention in hallways and on mantelpieces as they became reminders of lost loved ones. These items became memory objects infused with the stories of the aviators who souvenired them or had them made. They were also objects that drew in a host of other people who might have been involved in their production, in their collection, and, decades later, were involved in their sale or purchase on internet sites like eBay, in their research, or who might have visited them in a museum.

We cannot assume that all aviation trench art retains memories (Forty 1999: 2) for some examples are devoid of provenance since the original owners and makers have passed on, leaving only low levels of 'connective memory' (Saunders 2002: 199). As such, these objects might become repositories for 'anonymous memories' (ibid). Though that does not signify an end to their stories or, indeed, that they have no stories at all. One

stage in the 'social lives' (Appadurai 1986a: 5) of souvenirs and trench art is when/if they become museum exhibits, many without (or long since lost) stories attached to them. The meanings of aviator-related objects is constantly evolving and this challenges museums to know how to represent and interpret them (Saunders and Cornish 2009a: 4).

During my research in many war museums, I observed that many display uniforms, weapons and medals in the traditional military history manner which only provides one side of the story, though admittedly an important one. Often these museums miss the opportunity to tell stories infused within, the item's significance deriving 'from their associations, not only with other similar items, but with experiences, memories, imagination and a wealth of historical documentation' (Saunders and Cornish 2009a: 4). Uncovering these stories can be challenging. Dendooven (2009: 60–72) reports on the vast quantities of souvenirs from the First World War in Belgian Flanders which are returned to the In Flanders Fields Museum following the death of the original owner, the source of an object's provenance. He stresses that museum staff should record the stories that accompany an object for it is such stories which bestow value, meaning, and significance (ibid: 66). Objects are continually endowed with new meanings and the deposit of trench art in a museum does not necessarily mean the end of its social life, for museums, such as the RAF Museum Hendon and the RAF Museum Cosford, create new exhibitions, breathe new life into their exhibits, and thereby afford the viewing public a renewed sense of the past.

The relativity of the notion of authenticity is an important focus for aviation objects associated with conflict because, as with any objects, they are differently interpreted and valued by different people at different times. Pilot Vernon Castle wrote in a letter to his wife that he had amassed a collection of souvenirs to bring home, some to keep at home and some to give away:

I fired one of the guns and my ears have been ringing ever since. I bought my shell case home with me. I shall have it made into a lamp or something for Mother. Of course I'll have a lot of souvenirs for our home. *They will be interesting after the war.* I've got several now, so we can give some away. Brad will want one, and Ham too. I guess one will be able to buy them after the war, *but they won't be so interesting.* Mine will have a sort of little history attached ... (Castle 1919: 203–204). [My emphasis.]

Castle was indicating that it was preferable to have souvenirs with wartime stories connected directly to the aviator as they would then be more authentic. This of course raises the issue of the many souvenirs which originally had 'authenticating stories' but

which have since lost them – are they any less authentic than those whose stories have survived? Objects with no stories, such as commercially made examples, have no ‘authentic’ authenticity, but can be ascribed it through fictitious stories which, if believed by others, leaves them perhaps in difficult-to-analyse liminal spaces.

Issues surrounding the contested nature of authenticity become apparent in terms of the anthropological consumption of aviation trench art and souvenirs. On the one hand, modern day Parisian collectors view trench art to be authentic only if it was made by soldiers during 1914–1918 (Isyanova: 142), and not by civilians, such as battlefield pilgrims, internees and refugees, who also experienced the consequences of war. On the other hand, Saunders’ definition of trench art is purposely broader, extending to ‘any item made by soldiers, prisoners of war and civilians’ so long as the trench art and its makers ‘are associated temporally and/or spatially with armed conflict or its consequences’ (Saunders 2003a: 11). In the final analysis, whilst it may be true in general that ‘[d]istinctions between categories of art, artefact, and commodity are projections of individual experience that reveal, in the end, far more about those who collect objects than those who produce them’ (Phillips and Steiner 1999: 19), those who made souvenirs in the First World War infuse them with their own meanings and experiences which could not be shared by the civilian recipients. These items therefore tell equally of makers and consumers thus contradicting, or modifying, the peacetime souvenirs referred to by Phillips and Steiner.

Writing about the African Arts trade, Phillips and Steiner noted that objects produced for the souvenir and tourist trades could be considered to be ‘inauthentic’ (Phillips and Steiner 1999: 4). However, the First World War conflict souvenirs were made by returning civilians to the Western Front, themselves victims of the war, and they made the souvenirs from the detritus of war that they scavenged. This is a part of their story and affords the object as much significance as if it had been made by anybody else for ‘[in] order to interpret such objects we must begin to unpack the baggage of ... encounter with which they travel and search for the meanings and memories stored inside’ (Phillips and Steiner 1999: 19). The civilian production of souvenir trench art for the pilgrim tourists is clearly ‘a reflection of cultural community and adaptation in the face of enormous pressures’ (Ettawageshik 1999: 29) as civilians were forced to find innovative means of making money in order to survive. Style or decoration alone does not categorise an object as trench art for the creator and the circumstances of creation are important elements too (Saunders 2003a: 3). Conflict souvenirs are full of complexity

and their value lies in the circumstances of their acquisition and 'in particular resonate with memories of life and death situations, suffering or glory' (Cornish 2013: 24).

Pilgrim tourists took their trench art souvenirs home and this 'displays the romance of contraband, for its scandal is its removal from its "natural" location. Yet it is only by means of its material relation to that location that it acquires its value' (Stewart 1993: 135). Since a souvenir may 'authenticate a past ... experience' (ibid: 139) this may become troublesome in the future. For example, future generations may, perhaps, mistakenly, think that the souvenir trench art biplane, at figures 59 and 60 (Chapter 5), had been made by a relative who was a member of the RFC, although this would surely add to the object's story.

Turning to a more objective authenticity, Saunders (2016: 13) suggests that some servicemen may have created or purchased trench art with the aim of promoting a false identity in terms of military experience and achievement (as they undoubtedly did with medals). Such questions relating to the authenticity of a person's war experience would add to the story of the object and therefore change its meaning over time. However, the authenticity of aviators' material culture is of a different order than infantry material culture. It would be very difficult for a 'would-be pilot', as opposed to an infantryman, to fake his identity because the RFC was such a small unit and there were so few pilots that it would have been much easier to identify a 'liar' or a 'fake' pilot than a soldier.

Turning to the authenticity of the books and diaries that the aviators wrote, I have taken them at face value as being honest and true individual witness accounts. Indeed, RFC observer Alan Bott (1976 [1916]) brings to life the quotidian experiences of the flying officer in France. The introduction to his book by Major-General Brancker notes that Bott wrote about 'heroic deeds with such moderation and absence of exaggeration' (Brancker (1976 [1916]) and this is the spirit that I have followed. Such written accounts remain nevertheless *versions* of reality that fossilise interpretations. Their true value is that they are the product of genuine aviators but that does not necessarily mean that all they contain is true and an element of critical caution is required. Nevertheless these sources are as near to 'authentic' as we can get. Airmen's writings were first-person experiential descriptions and, therefore, very individual and personal accounts, as their descriptions of particular events could never be exactly the same. Interestingly, '[f]or Aristotle, only the spoken word truly represents mental experience, while the written word stands for the spoken one' (Aristotle 1938: 115; quoted in Ingold 2000: 247), the pencil 'endowing

the hand with a voice that has more permanence than the speaking voice' (Scarry 1985: 254), such writings also being tangible commemorative legacies of the aviators.

On searching through eBay for aviator trench art, it is apparent that it commands high prices, much higher than non-aviator trench art. This is because of its rarity and that there is a specific and highly competitive group of collectors who outbid each other. Today, the market for RFC memorabilia has become a market for fakers, and fake items can sell for hundreds, even thousands of pounds.¹²⁷ Demand for trench art has 'led to the creation of new forms of material culture [particularly] replicas and fakes' (Steiner 1994: 10), apparently based on 'economic ... motives' (ibid: 14).

CONCLUSIONS

RESEARCH QUESTIONS

The four research questions which guided this research were designed to bring theoretical rigour to First World War aviation studies from a hitherto untried anthropological-archaeological perspective. The questions which have focused this thesis are but part of a new interdisciplinary research agenda for investigating the relationships between individuals and newly created technologies in previously inaccessible realms, through the lens of industrialised conflict.

Research Question 1

How might the term 'First World War conflict air-scape' be defined and how might it be developed to investigate the relationships between aviators and aeroplanes?

Here, I reiterate the key conceptual tool central to this research which I have defined in an attempt to understand the sensorial dimensions experienced by First World War aviators. A First World War conflict air-scape materialises multiple depths and dimensions in terms of the perceptual elements of the material world. The RFC is a cultural community whom it is possible to relate to through its aviator-specific sensorium, the haptic sensory signature being one dimension of air-scape in that it is an experiential sensorial realm – a conflict air world in which aviators learned to master and navigate through their senses. It is a unique experience relating to particular technology representative of a historic era and definitive of the open-cockpit biplane. Technology changes our understanding of the senses and the haptic dimension of air-scape identifies: the cultural transformations of the human body; the reconfiguration of the pilot's senses; the cultural reconfiguration of natural phenomena such as air and cloud;

aviators' cultural perceptions of time, space, speed, and distance; and the experience of new corporeal feelings as aviators adapted to the physical and environmental constraints afforded by flying an open-cockpit biplane. Furthermore, a pilot's haptic senses provided a means of communication and verification as well as being a bodily warning system in terms of physical well-being. Accrued flying skill became paramount if aviators were to survive. Technological innovations reconfigure our senses as new skills are required. Such a haptic sensory signature is one cultural dimension that identifies the conflict air-scape of a First World War aviator.

A process of objectification enabled the relationship between pilots and their aeroplanes to materialise as their experiences of flying in conflict conditions caused other things to happen, creating 'new types of activities, objects and events' (Tilley 2006: 60; see also Miller 2010: 54–68), such as reworking and recycling aeroplane propellers to become grave markers, aviators' use of lucky mascots and their collection of souvenirs and trench art. Each of these material forms contributed additional dimensions to the conceptualisation of a conflict air-scape, particularly in terms of commemorative legacies.

A key conclusion to how the term First World War conflict air-scape might be developed further to investigate relationships between aviators and aeroplanes, concerns the role of ideas and beliefs as expressed in material culture. The emotions of fear and anxiety were ever present. As such, another dimension of a First World War conflict air-scape is evident in an aviator's adoption of superstition and ritual as a source of communication and expression within his social world. This dimension of air-scape sees an aviator's superstition manifest into actual physical and tangible reality in terms of bodily ritual and the use of objects reified in material culture as lucky mascots.

There is also the enduring nature of material culture representations of First World War conflict air-scapes. Pieces of crashed aeroplane were recycled into trench art that found a resting place as memory objects in focal positions in the domestic household becoming commemorative legacies of the war. As memory objects, the pieces of trench art were imbued with aviators' stories that afforded the objects significance and provide them with a powerful presence today. The cultural and object biographies of trench art constantly introduce new meanings as new connections appear with other individuals, groups, and institutions.

In addition, there are the aeroplanes, which have now become museum exhibits in their own right. Certainly biplanes are often displayed in museums parked within the

boundary of a rope cordon, forcing the visitor to look and not touch. Some aeroplanes have been refurbished in order to remain in flying condition or flying reproductions have been made to afford a very specific kind of post-war materiality or experience. These flying aeroplanes are not one hundred percent authentic in that they never flew in conflict conditions, but can give the semblance of being genuine to spectators who watch them fly at air shows or pay money to fly in them.

There is, however, one authentic aeroplane from the First World War that still flies – a 1917 SE5a,¹²⁸ used originally by 84 Squadron RAF in France in November 1918. It is recorded as having destroyed a German Fokker biplane the day before the Armistice ('Shuttleworth' website), and is indicative of an enduring First World War air-scape. But if this aircraft was viewed within a haptic air-scape approach, we might add further interpretation by unlocking the stories within its heavily-conserved structure, thus making it even more interesting to the viewing public. Of course, we can go to Flight Display Days at, for example, the Shuttleworth Collection and the Imperial War Museum, Duxford, to see a First World War aeroplane fly and to hear its engine or smell the Castor oil, but we do not get to fly it, or experience the smell of cordite or the wind against one's face.

Research Question 2

How can an interdisciplinary approach investigate, describe, and analyse First World War aviators' haptic experiences between 1914 and 1918?

First World War aviators saw the boundaries between man and machine seemingly dematerialise as the sentient pilot body was culturally transformed and humans and non-humans became entangled (Latour 1993: Loc. 565). Biplanes may be regarded as 'material prostheses to the human body' (Thrift 2010: 639) for they change the way the body experiences movement. The technology of the biplane, in creating a re-modelling of the human body into the pilot body, 'eliminat[ed] the limitations of sentience ... magnifying its powers, [to] make sentience itself an artefact' (Scarry 1985: 255). The pilot body is able to 'feel' the aeroplane as though it is part of him, especially through tactile points of bodily contact such as the hands and feet – 'the haptic interface' (Paterson 2007: Loc. 351). Apart from flying his aircraft (including risky take-offs and landings), the pilot had to shoot at the enemy as he engaged in haptic tactics. A skilled pilot learned to naturally utilise his vestibular sense as a means of steadying the biplane whilst, at the same time, concentrate on aiming and shooting his gun. For example, when attacked

from behind, the design of many aircraft necessitated that the pilot stand up on his seat, hold the joy-stick between his knees, thereby using his vestibular sense to balance and steady the biplane while simultaneously holding his gun steady to fire backwards over the top of the aeroplane (Lewis 2009 [1936]: 25). Constant flying practice and getting to know, and compensating for, an aircraft's peculiarities meant that the pilots' bodies were haptically re-configured as they learned to instinctively feel and handle their aircraft with confidence as it became an extension of their sentient body. When flying in formation, the lead pilot made pilot-coordinated gesticulatory movements to mimic culturally recognised signals and gestures in order to communicate to the other pilots. For example, 'a turn to the right would be signalled by rocking the machine from side to side and then dropping a wing down to the right and commencing the turn' (Compston 2009 [1931]: 85).

As well as learning to fly and becoming skilful at doing so, aviators had to come to grips with the new technology of both aerial photography and wireless transmitting. Such new technology 'extends the reach of the body and can give us a sense of experiencing a world apart from the body' (Rodaway 1994: 32). The use of wireless technology had an interesting effect on the senses for it provides an example of Gell's 'distributed person' (Gell 1998: 222). For example, as the pilot instructed the artillery batteries on the ground to more accurately direct their guns at the enemy, he was instrumental in causing men to be killed in areas nowhere near his own physical body (ibid: 222) – he had become the eyes of the army, thereby extending the scale and nature of the conflict landscape.

Flying afforded a new way of moving which altered an aviator's cultural perception of time, space, speed, and distance, such cultural aspects adding important insight into the concept of a pilot's haptic experience. Twentieth century aerial combat re-configured 'the cultural sense of distance (e.g. Helms 1988: 7–8)' (quoted in Saunders 2009a: 27) in terms of vertical distance, the up and the down. It also re-configured the cultural sense of 'scale (the large and the small) (e.g. Molyneaux 2006: 67–71)' (ibid). The reconnaissance undertaken by the RFC was important, particularly in the lead up to the Battle of the Somme, and the aerial photographs made the faraway look near, thus interfering with perceptions of distance, and aviators had to learn how to see as they interpreted the photographs. The German gunner on the ground and the pilot in the air tried to outguess and outmanoeuvre each other by playing with such perceptions manifesting in a conflict of and between the senses, and highlighting the human experiences of and adaptation to this new technologically created and enhanced

sensorial realm. In effect the pilot was experiencing the enemy in relation to himself and, in such perceived 'affordance' (Gibson 1986 [1979]: 141) of distance, 'the awareness of the world and of one's complementary relations to the world are not separable' (ibid).

Speed mattered too. The 'essence of speed' (Ingold 2011: 152) lies 'less in the ratio of distance travelled to elapsed time than in the decoupling, in transport, of perception and motility' (ibid) such that reducing movement to mechanical displacement establishes the possibility of speed (ibid). The pilot body is not conscious of speed as velocity at height cannot be sensed, and the speed indicator was a substitute for a pilot's sense of knowing and verification. In terms of the senses of proprioception and the sense of knowing where your body is in space, if wind speed was greater than landing speed, a pilot could feel disoriented in terms of thinking his aeroplane was moving forward, when it was moving backwards.

Aviators learned to use cutaneous sensations of pressure, temperature and pain to make sense of, and acclimatise to their aerial world. They experienced new corporeal feelings, such as the pressure of centrifugal force. They experienced breathing difficulties and blocked ears caused by flying at high altitudes. Such sudden changes of altitude caused an aviator's eyes and ears to become suddenly painful, the consequences of being able to move several thousand feet up and down. Such distance emphasising 'contrasts between "here" and "there"' (Helms 1988: 33). Moving such vertical distances was a new feat of endurance for the human body becoming culturally relevant (ibid: 64) and emphasising cultural contrasts where 'horizontal distance may flow into vertical distance as the sky meets the earth at the horizon' (ibid). Flying at different heights exposed airmen to a variety of temperatures, becoming colder the higher they flew. The pilot body, therefore, registered its descent in terms of the haptic thresholds that could be experienced at different altitudes, for example, feeling their blood pulse through their frozen fingers accompanied with the throb of pain that felt like pins and needles.

Technology and biology seemingly merged as the technology of aeroplanes enabled the pilot body to overcome its natural limitations. A First World War pilot learned the limits and tolerances of his body, particularly with regards to how high he could fly without, for example, the aid of an oxygen mask. The felt tolerances of an aeroplane in terms of handling capabilities were culturally important to aviators of the RFC but were not immediately apparent – they came with experience and were bodily ways of knowing in terms of representing a 'culturally constructed sensorium' (Geurts 2002: Loc. 973). When learning to fly, an aviator was initially heavy handed at the

controls of a biplane. However frequent flying practice enabled a more experienced pilot to 'feel' an aeroplane that was heavy and awkward to fly, such skill culturally transforming his senses. First World War aviators saw the boundaries between man and machine dissolve as the sentient pilot body was culturally transformed.

Research Question 3

How are the physical, spiritual, and superstitious relationships between First World War aviators, aeroplanes, and the 'new' haptic world of flying reified in material culture as lucky mascots?

A key aspect of answering this question concerns the role of ideas and beliefs as expressed in material culture. The emotions of fear and anxiety were ever present. Emotions are an important consideration in times of warfare and apportion sensorial significance and meaning to the more holistic, self-reflexive, and emotional kinds of anthropological investigation. Here it concerns aviators' use of superstition and ritual as a source of communication and expression within their cultural world. Airmen relied on lucky mascots, superstition and ritual to create a world that they imagined they could control and be protected in within their contested environment. This dimension of conflict air-scape sees aviators' superstition manifest itself in tangible reality in terms of bodily ritual and the use of lucky mascots.

The life expectancy of a First World War pilot in 1916 was an average of 3 weeks (Lewis 2009 [1936]: 154). In 1917, the life expectancy of a First World War aviator from posting until death was just 11 days (Clark 1999 [1973]: 92). Pilots knew this beforehand and such information would have added considerably to their fears and anxieties. In addition there were many fatalities in training and in take-off and landing as well as the fact that the aeroplanes were fragile and could break up in flight without warning. Thus the particular circumstances of First World War combat flying exaggerated their need for mascots as compared to the average civilian in one of folklorist and mascot collector Edward Lovett's (2014 [1925]) London streets.

Aviators' belief in luck and superstition stemmed from folklore published in newspapers, magazines and journals that were popular during the First World War. Such contemporary texts are important primary evidence. They provide a context for understanding that people engaged with objects not because of their form and function but through a gift economy in the Maussian sense (Mauss 1990 [1954]) where the significance of gifting a lucky mascot highlighted the relationship between the giver and the receiver (aviator). Mauss's phenomenological approach to gift exchange informs the

obligation involved in the act of giving, i.e. an aviator receiving a lucky mascot must, in return, endeavour to survive the war – not least, in this context, by practise flying sessions to hone their skills. In addition, it could be suggested that, if the pilot who had received the lucky mascot was killed, his sacrifice could be deemed to be his ultimate gift, such reciprocity revealing the social cycle of gift giving. Certainly society regarded such deaths to be a sacrifice as the Cross of Sacrifice sited in all CWGC cemeteries containing forty-plus burials attests. After the war it was widely considered a duty to visit the graves as a reciprocal act of remembrance, such gift cycles engaging people in a deeply-felt commitment. This is significant in that it broadens social relations and obligations. However, a gift may not only be reciprocal for there exists a variety of possible responses at different levels and there might be many such responses at any one time. For example:

- (a) the object could be a personal gift from, for example, a girlfriend or wife. The aviator could purchase an item and send it back home in return;
- (b) an aviator could give his wife, mother, or girlfriend a trophy from a downed aeroplane – this is a different and visceral level of reciprocation, real war material from a real conflict;
- (c) the wife, mother or girlfriend may receive a postcard boarded in black informing her that the pilot is lost in action or killed. Did he give his life for her? Many felt that way in a complex mix of emotion – grief, gratitude, and longing.

The loved one gives the lucky mascot regardless of these three levels. Ultimately, the aviator contributes to the winning of the war so becomes a small part of national victory and thus contributes to the gift of peace – signifying that not all gifts are tangible objects.

Friends and relatives of aviators gave them mascots for protection through the ‘agency’ of belief – in that these young airmen and their relatives displayed a half-belief in luck, fate and providence. Folklore explanations current during the early twentieth century can be deployed to illustrate ‘that our attempts towards understanding materiality may be better served by an adequate recognition of folk theory on magic than by some ... academic striving towards theoretical rupture with our often enchanted everyday lives’ (Pels 2010: 614).

Many aviators relied on objects such as lucky charms, or believed in omens and rituals to create ‘an imagined structure of security, sense and control’ (Watson 2006: 249) in their environment. Anxious over the uncertainty of the time they would die, pilots created innovative means in an attempt to attract good fortune, looking upon certain objects and incidents as good or bad omens. The pilot’s body became a

microcosm of the wider world of belief in propitious directions. For example, in the wider world, the ancient Chinese protocol of *feng shui*¹²⁹ advises people how to decide orientations in, for instance, garden design, such directions determining a desired outcome (Ruan 1996: 217). In a similar way, when a bottle of drink was passed around between airmen, it had to be passed to the right or clockwise in order to encourage a good outcome, i.e. the pilot's survival – compare the occupants of Bourdieu's (1979: 144) Algerian Kabyle House who structured their lives with performed actions in accordance with cardinal orientation to attract good fortune.

In various ways, amulets, mascots, charms, omens, lucky sayings and rituals influenced the ways in which aviators behaved in certain situations. Aviators endowed their lucky mascots with importance and would refuse to fly without them, and their loss caused anxiety and stress to all concerned as they were seemingly controlled by such objects.

Research Question 4

What are the commemorative legacies of First World War aviators and how are they reified in material culture today?

When a pilot died, his propeller, if available, could be used as his grave marker which was by definition also an item of trench art. Accordingly 'objects are not stable entities' (MacGregor 1999: 269) because their meanings and attachments change throughout their lives as they become commemorative legacies of the First World War.

The propeller marks the significance of the way the aviator died, embodying his experiences if the propeller comes from his crashed aeroplane and representing those experiences more generally if it comes from elsewhere. The propeller grave marker is 'endowed with the personal characteristics of [the dead pilot]' (Hoskins 1998: 7), thus transgressing the boundaries between objects and people. Hoskins' (1998) 'biographical object' approach is therefore pertinent here as objects become repositories for individual, emotional, and intimate stories which become the commemorative legacies of the dead pilots.

In terms of the erection of the propeller grave marker and subsequent funeral event, it is apparent that the grave markers were 'social agents' (Gell 1998: 5) in the sense that 'objects do not provide a stage setting to human action; they are integral to it' (Gosden and Marshall 1999: 169). The dead do not bury themselves and the grave marker, in causing people to visit it, is thus a form of intentional action (Gell 1998: 16–

17). The propeller grave marker embodies intentionalities and mediates social agency as the sight of it induces feelings of emotion in the form of grief, sadness, and respect. This suggests that a grave marker's biography is a 'system of action, intended to change the world' (ibid: 6) as it seemingly interacts with the people who gaze upon it and touch it during their visits. Once erected, the grave marker becomes an object of attraction, visually informing a gathering of people of a pilot's death and thus communicating to them the way they should feel in terms of sadness, loss and sacrifice, and thereby lending substance to the idea that objects make people (e.g. Miller 1998a: 3).

As propeller grave markers, at least in part, caused relatives to visit them, this led to other social interactions as the relatives purchased civilian-made trench art as a souvenir of their visit. The propeller grave marker was the catalyst for the commercially made souvenir trench art. As an object of focus in the domestic home, the souvenir trench art may have been polished or dusted by the owner periodically, almost ritually, such domestic chore 'prompt[ing] the polisher to remember a lost loved one ... represent[ing] a silent and emotional temporal communication linking the present with the past' (Winterton 2012a). In addition to being an object full of memories, such an 'evocative object' (Turkle 2007) had 'a profoundly healing function' (Pollak 2007: 225) as it became a companion to the emotional life of the bereaved (Turkle 2007: 5) who had to come to terms with their grief, thus 'underscoring the inseparability of thought and feeling in our relationship to things' (ibid). It would provide a link to the memory of the dead aviator and it too could go on to have its own social life.

The propeller grave marker originated from a crashed aeroplane and was transformed into a trench art grave marker marking the burial of a dead aviator. After the war, the CWGC removed all wooden grave markers and replaced them with the uniform white Portland stones that we see in all CWGC cemeteries throughout the world, providing further transformations of the propeller grave markers. Some of them were transported by bereaved families to the United Kingdom to be erected in private gardens, or, for example, placed inside a church. Such re-placements created a form of 'spatialised memory' (Hallam and Hockey 2001: 86) that emphasised the sense of sadness felt by the bereaved. Wherever the grave marker is placed, the sight of it will always create dramatic visual impact and, in its space, it becomes 'the "living" deceased [that] receive[s] visitors and gifts' (ibid: 151). For example in a church today, red poppies are left on Remembrance Sunday so that the dead, in general, are not forgotten. In this sense, propeller grave markers become 'animated as the body of a person in that it is ...

cared for, gazed at, [and] dressed with flowers' (ibid) and, in this way, the living have a relationship with the deceased as they provide them with a presence.

Kopytoff's (1986) biographical approach to objects facilitates the identification of the 'acquisition' and 'manufacturing events' (Saunders 2009: 49) in the lives of aviator trench art. Other events in the social lives of trench art and souvenirs became apparent in the form of objects of focus in the homes of the bereaved which reified a completely new sensorial world. They also became objects of attraction on display in a museum or part of a private collection. Such objects could be viewed as 'biographical objects' (Hoskins 1998) as repositories for individual and emotional stories of the First World War aviators as they become enmeshed in our cultural heritage to become commemorative legacies of aviation conflict thus triggering new experiences as material worlds are regenerated.

Relationships with aviation-related objects were forged as recycled objects of conflict were brought into people's homes. Such objects were imbued with personal experiences of war, later to become objects textured with memory, remembrance, and longing – attributes that clearly go beyond an object's original form and function. Such objects continued to be meaningful after the war, altering physical space, changing the emotional atmosphere, and serving as constant reminders of absent loved ones (Saunders 2007: 1–62). The living room of a bereaved wife or mother could become a shrine to the deceased, a statement to all who visited as to the sacrifice of a son or husband who was an aviator in the war and thus a tangible and visible mark of 'social distinction' (Bourdieu 2010 [1984]) as much as it becomes a 'social agent' (Gell 1998: 5). Such a display would have the 'intention' (ibid: 6) of 'deliberately invit[ing] remembering, and, in so doing, create a temporal perspective which claims for the group who owns these artefacts its entitlement to a superior moral status' (Radley 1990: 50, citing Douglas and Isherwood 1979). It could become a talking point about the air war or a focus point within the home, a place of remembrance, representing not just familial loss but recording also a visit to the old battlefields to find the grave of a loved one or, perhaps, just to 'sense' the location and thereby draw nearer to a husband, lover, father or brother.

All trench art became commemorative as it shaped the memories of the living. It is 'endowed with the personal characteristics' (Hoskins 1998: 7) of the First World War aviators, dissolving, at least in part, the distinctions between objects and people.

The First World War in the air was not just ‘a single indisputable legacy’ (Saunders 2007: 177) but also ‘a heritage that we are all creating and shaping as we come into contact with new and different understandings and presentations of its physical remains, and of the personal experiences’ (ibid) imbued in them.

REVIEW OF RESEARCH OBJECTIVES

Adopting an inter-disciplinary research framework offered a hitherto under-used approach to the investigation of First World War aviators’ experiences and material culture. The aim was, in part, to portray a more personal, intimate, individual and emotional interpretation of the relationship between pilots and their biplanes and the social worlds they created in the process. The approach also provided a means of documenting and analysing First World War aviation to enhance understanding of human nature and creativity at the limits of human endurance, through exploring issues of materiality, sensoriality, and technology in conflict.

In order to address these issues, my research necessarily moved beyond the purely scientific and processual paradigms that analysed form, materials, and method of manufacture of objects, casting aside Cartesian dualisms of object and person. The complex materialities of the First World War are beyond the scope of any single-discipline, and this research has sought to add to and complement the traditional narratives of military/aviation history. It is hoped that the case studies presented here have added new insights into the value, meaning, and significance of pilots’ sensorial experiences and how these in turn affected if not remade their relationships with each other, their aircraft, lucky mascots and the generality of trench art and souvenirs which have become their enduring physical legacies.

In acknowledging that there can be a tool with which to study human sensation in a cultural context (Howes 2005a: 143–145), the research presented here establishes the idea of a ‘sense-scape’ as a way of understanding the human experience of flying a First World War open-cockpit biplane. This in turn, has led to conceptualising an ‘air-scape’, ‘invoking both time and place, past and present, being always in process’ (Bender 2006: 304) as they ‘experience and engage with the world around them’ (Bender 1993a: 1). It does so in physical terms but also in the transmission of pilot-specific cultural values and experiences. The sentient aviator body has a history, and a focus on haptics materialises the felt phenomenological experiences of pilots at the beginning of conflict aviation. In analysing pilots’ written texts, sensorial details emerge, but the texts

themselves are by definition material culture, and so represent a dimension of human creativity integral to the social production of reality (Moreland 2001: 83; cited in Winterton 2012).

Inter alia, this thesis has also pursued auto-ethnography (Pink 2009: 64) as a means of experiencing and comprehending at first hand the sensory experience of being in an open cockpit biplane. In this I have followed Pink's emphasis on reflexivity where '[s]ensoriality is fundamental to how we learn about, understand and represent other people's lives' (ibid: 7). This approach permitted a degree of immersion in and comprehension of the sensorium within which First World War pilots flew, though clearly not the anxiety and stress produced by combat.

RESEARCH IMPLICATIONS

New sub-disciplines, such as modern conflict archaeology, play an important role in acknowledging and deploying an archaeology of the senses, and bringing within its remit theorised applications which connect to material culture anthropology, and which can be used in previously unrecognised ways. It is hoped that this thesis is a contribution to this process.

Heritage too can benefit from the kind of investigations described here, as mainstream publications on history, aviation history especially, and traditional battlefield archaeology neither recognise nor apply such approaches. The latter, of which so-called 'air-crash archaeology' is a subset, focuses mainly on verifying historical information, finding bodies, or, at the extreme, looting wrecked aircraft for aviation militaria to sell. Experiences of conflict air-scapes vary with aircraft technology and the moral frameworks of particular conflicts (e.g. the civilianisation of air power as represented by the Second World War 'Blitz' on London). Each of these can affect the nature and pressures of air-war, and affect the pilot body physically and mentally. The research conducted for this thesis will hopefully contribute to a more powerful anthropological-archaeological approach to future investigations of the relationships between people and technology associated with and affected by aerial war, the victims as well as the pilots.

Beyond air-scape: other applications for conflict research

Given the spatial dimension at the core of my sensorial analysis, the approach I have deployed could also apply to the crews of First World War observation balloons, tanks, and submarines, and beyond, to air-transport gliders, and helicopters. Such research

would reveal what constitutes the sensorial worlds associated with a specific technology and how such experiences are reified in conflict-specific material culture. For example, since 'the sensorium is a social formation ... [that] seeks to bring out the mediatory role of the senses in the production of experience' (Howes 2017: xix), a sensorial approach could materialise tank crews' experiences as representative of a historic moment in time in terms of their relationships with the technology of an era. The tank was first used in the First World War from 1916 onwards with the intention of breaking the stalemate of trench warfare. It was designed to travel over difficult terrain, crush barbed wire, survive machine-gun fire and assault fortified enemy positions. The tank provided a new experience of moving and breathing with uncomfortably high temperatures, disorienting fumes, and the danger of splintering bullets ricocheting inside the tank. The Tank Museum at Bovington, Dorset, contains a wealth of objects and information, a trove of raw material data including trench art, lucky mascots, and souvenirs to which a sensorial approach could be brought to bear. The fact that a battalion of the Chinese Labour Corps was stationed at the Central Workshop for tanks in Erin, France, and elsewhere, because it was judged to have a particular talent for tank-related work, would add an unusual dimension to any anthropological research. How the Chinese may have reacted sensorially to such activities given that most were peasant farmers back home, would be particularly insightful. Certainly, some of the trench art made by members of the Chinese Labour Corps, at the request of tank crewmen, display Chinese-influenced design and patterns and inscriptions which would provide another interesting avenue for research in terms of emotional objects and non-European cultural biographies.

The interdisciplinary material culture approach adopted here, informed by theoretical considerations in terms of being experiential, sensorial, agentic, auto-ethnographic, and biographical, offers a powerful blend of research methodologies which could be applied to many other theatres and technologies of modern war. One example is the Vulcan bomber during the Cold War. It is possible to experience being in a Vulcan bomber and, therefore, a participatory approach is possible in terms of analysing the sensorial impact of the aeroplane on its crew, as well as on documented public reactions to this particularly majestic aircraft in the context of Cold War tensions during the 1960s and 1970s. The Vulcan bomber became a legacy of the twentieth century war that never was, but we can further understand its materiality in looking at why it was built, and people's experiences of it, together with public attitudes to it. The Vulcan bomber is both 'message' and materiality.

FINAL COMMENTS

This thesis has sought to add analytical and methodological rigour to the way in which First World War existential air-scapes and their legacies can be investigated and understood. The potential of modern conflict archaeology in providing a new anthropological-archaeological perspective has been demonstrated, particularly because it moves 'across traditional subject boundaries, conceptualise[s] [its] own multidisciplinary research agendas, and innovate[s] its own methodologies' (Saunders 2012a: viii–ix). It promotes an 'archive archaeology' as a viable alternative to physical excavation in pursuing the investigation of written sources and collections of artefacts (Hicks et al 2009). Such cross-disciplinary approaches allow us to look beyond historical statistics of the First World War to see the reality of quotidian experiences of the First World War aviator and allows us to identify areas of future research that might not at first seem obvious, and hitherto were perhaps unimagined.

ENDNOTES

- ¹ The fact that, at the time, the First World War was recognised as a war of *matériel* ‘invites an anthropological approach focused on material culture’ (Saunders 2003a: 2).
- ² Glossary, Appendix 1.
- ³ ‘Any item made by soldiers, [airmen], prisoners of war and civilians, from war *matériel* directly, or any other material, as long as it and they are associated temporally and/or spatially with armed conflict or its consequences’ (Saunders 2003a: 11).
- ⁴ When the Royal Flying Corps became the Royal Air Force, on 1 April 1918, it retained the motto (‘RAF’ website).
- ⁵ Glossary, Appendix 1.
- ⁶ ‘Close combat between military aircraft’ (Waite 2012 [1979]: 209).
- ⁷ 13 January – 19 March 2017, at the Estorick Collection of Modern Italian Art, 39a Canonbury Square, London, N1 2AN.
- ⁸ Vietnam War, 1954–1975.
- ⁹ The Sacred Heart badge was an oval piece of red cloth bearing the representation of Christ, which was sewn inside the tunic (E.S. Turner 1980: 138).
- ¹⁰ Published monthly between 1905 and 1951, this journal was devoted to the investigation of supernormal phenomena and the study of psychological problems (‘*Occult Review*’ website).
- ¹¹ Glossary, Appendix 1.
- ¹² First World War pilot slang for aeroplane.
- ¹³ 5486.400 metres. Imperial measurement is used for altitude throughout the world, except China and Russia. Measurements are, therefore, given in feet with a conversion to metres provided as a footnote. Conversions were made using the website: <http://www.metric-conversions.org/length/feet-to-meters.htm> [Accessed 28 May 2018].
- ¹⁴ 914.400 metres.
- ¹⁵ His diary was published by his friend Elliott White Springs and was called *War Birds. The Diary of an Unknown Aviator* (White Springs 1966 [1927]).
- ¹⁶ Hicks and Beaudry, however, call this idea into question, asking ‘[do] different disciplines let the same things in’ to research? (Hicks and Beaudry 2010a: 2).
- ¹⁷ Magic: ‘the apparent use of mysterious or supernatural forces to make something happen’ (Waite 2012 [1979]: 435).
- ¹⁸ Aristotle is famous for his hierarchy of five *separate* senses (1986 [350BC]: 168–186) – (1) sight, (2) hearing, (3) smell, (4) taste, and (5) touch – where sight is privileged and touch is relegated to the lowest, basest position as belonging to animals. Thus Greek tradition, in separating mind and body, regarded the mind as being superior to the body in that animals had senses but humans had intellect.
- ¹⁹ My field note book is cited as ‘MW, Field Note Book’ throughout (see Appendix 2).
- ²⁰ Glossary, Appendix 1.
- ²¹ Glossary, Appendix 1.
- ²² 2133.60 metres.
- ²³ *Ondata zibethicus* (also called muskrat). ‘A large North American rodent with a musky smell, valued for its fur’ (Waite 2012 [1979]: 475).
- ²⁴ 3048 metres.
- ²⁵ 3048 metres.
- ²⁶ 5486.40 metres.
- ²⁷ 914.40 metres.
- ²⁸ 304.80 metres.
- ²⁹ Glossary, Appendix 1.
- ³⁰ Glossary, Appendix 1. Taylor does not state which model of Albatros he flew.
- ³¹ 304.80 metres.
- ³² Avro was a British aeroplane manufacturer, founded in 1910. It made the Avro 504, a training aeroplane used in the First World War.
- ³³ Glossary, Appendix 1.
- ³⁴ Glossary, Appendix 1.
- ³⁵ Battle of the Somme, 1 July – 13 November 1916.
- ³⁶ Vertical aerial photographs are shot from immediately above the subject of the image being photographed – produces a flat map-like image.
- ³⁷ 6096 metres.
- ³⁸ 3048 metres.

-
- ³⁹ 4572 metres.
- ⁴⁰ Air is less dense at altitude so the propeller and engine become less effective as there is less oxygen to burn. Supercharged engines had not yet been invented and these would have overcome the altitude problem in that they could suck in more air per unit of petrol.
- ⁴¹ 1828.80 metres.
- ⁴² 609.60 metres.
- ⁴³ 1524 metres.
- ⁴⁴ 1645.92 metres.
- ⁴⁵ 5181.60 metres.
- ⁴⁶ 4572 metres.
- ⁴⁷ Oblique aerial photographs are shot at an angle to reveal details not shown in vertical aerial photographs, e.g. objects under trees may not be visible in vertical aerial photographs. Oblique aerial photographs cover more ground than vertical ones.
- ⁴⁸ Glossary, Appendix 1.
- ⁴⁹ 1828.80 metres.
- ⁵⁰ Glossary, Appendix 1.
- ⁵¹ By late 1917, aviators communicated by wireless with artillery battalions on the ground. Both voice over wireless (radio telephony) and Morse code over wireless (wireless telegraphy) was used (Bruton 2016).
- ⁵² 304.80 metres.
- ⁵³ 3048 metres.
- ⁵⁴ 365.76 metres.
- ⁵⁵ Glossary, Appendix 1.
- ⁵⁶ Motor car mascots, such as metal dogs and cats, were fitted on to car radiators and ‘carried for fun rather than genuine amulets’ (Wright and Lovett 1908: 292).
- ⁵⁷ 6096 metres.
- ⁵⁸ As the speed increases, the sound of the wind on the external wires holding the aeroplanes wings to the fuselage and to each other would change both in pitch and loudness. The wires have a natural frequency of oscillation which would change due to the wind friction upon them.
- ⁵⁹ Due to increased gravitational forces and pressures exerted on the body.
- ⁶⁰ Glossary, Appendix 1.
- ⁶¹ Superstition is ‘the irrational belief in supernatural events; a belief that supernatural influences can bring good or bad luck’ (Waite 2012 [1979]: 732).
- ⁶² Military bugle/trumpet calls have been used by the armed forces for centuries as a means of communication and, perhaps the best known of all bugle calls is the *Last Post*. This marks the end of the day and is also used as a mark of respect for the dead at funerals.
- ⁶³ The black cat was considered to be lucky, an old and equally modern superstition (Sharper Knowlson 2008 [1890]: 154; Villiers 1929: 36–37).
- ⁶⁴ Animals were popular squadron mascots and regularly appear in photographs of air and ground crew. There are many photographs relating to the wide variety of animals, e.g. lion, dog, monkey, fox, pig, and fighting cock, kept by RFC squadrons and individual aviators. Although I have omitted including them in this thesis, such information may provide a useful area of research in the future for it is an interesting, yet under-researched, area of modern conflict and would make a useful comparison to the lucky mascot animal objects which, though non-living could be perceived as spiritually active ‘creatures’.
- ⁶⁵ The word ‘mascot’, ‘covers luck-bringing persons as well as objects, appears to have been derived from a Provençal word *mascotte* popularised by Andran’s comic opera “L Mascott”, which was first performed at the end of 1880. The word *mascot* originally meant a gambler’s “fetish”, and was used in the patois of Marseilles, where Andran was born’ (Wright and Lovett 1908: 289).
- ⁶⁶ Rose O’Neill (1874–1944) published cartoons of Kewpies in, for example, the *Ladies Home Journal* and *Good Housekeeping* (Formanek-Brunell 1997).
- ⁶⁷ A very popular superstition in the British Isles today, that can be traced to the early nineteenth century, is when we touch wood and/or say ‘touch wood’ whenever we have boasted, or tempted fate, in some way, or we say it to avert ill-luck (Roud 2006: 484).
- ⁶⁸ A fictitious epitomist of Englishness and British imperialism, popularised by British print makers; originally the creation of Dr. John Arbuthnot in 1712 (*Oxford Dictionary of National Biography* website).
- ⁶⁹ It is believed that the finder of a four-leaf clover will be fortunate and an old country rhyme says of a four-leaf clover: ‘One leaf for fame, And one leaf for wealth, And one for a faithful lover, And one to bring you glorious health, Are all in a four leaf clover’ (Villiers 1929: 40).
- ⁷⁰ The True Cross is a Christian relic and reputed to be the wood of the cross on which Jesus Christ was crucified (*Encyclopaedia Britannica* website).

-
- ⁷¹ A 'returning' boomerang is designed to return to the thrower.
- ⁷² Glossary, Appendix 1.
- ⁷³ Henry Allingham (1896–2009) was the oldest surviving veteran of the First World War. He was 113 years' old when he died (Allingham 2009).
- ⁷⁴ Saint Christopher was a 3rd century martyr. He was the patron saint of travellers as well as being invoked against sudden death. It was believed that whoever saw an image of St. Christopher would not die that day (Farmer 2011: 89–90).
- ⁷⁵ These words come from the King James Version – the English translation of the Christian Bible for the Church of England (other versions cite the Psalm quite differently in places). The King James Bible was the mainspring of religious cultural life during the First World War (Snape and Parker 2001: 404).
- ⁷⁶ This is a poem by the poet William Wordsworth which describes the ideal man in arms. Composed in 1806, following the death of Lord Nelson, and first published in 1807, it asks 'Who is the happy Warrior? Who is he that every man in arms should wish to be?' (Wordsworth 1984 [1807]).
- ⁷⁷ 34.75 metres.
- ⁷⁸ 609.600 metres.
- ⁷⁹ Glossary, Appendix 1.
- ⁸⁰ The origin of it being unlucky to sit thirteen to a table may stem from the Last Supper where thirteen were present and the tragedies subsequent to that meal may be re-enacted on any occasion when thirteen are seated at a table (Sharper Knowlson 2008 [1890]: 138).
- ⁸¹ Glossary, Appendix 1.
- ⁸² Glossary, Appendix 1.
- ⁸³ 'Beatrice Lillie': Date of Birth 20.05.1894–20.01.1989. Canadian born British comedic performer, actress and singer. Made her first West End debut in 1914.
- ⁸⁴ German pilot, Manfred von Richthofen, also known as the Red Baron, was considered to be a flying ace. He was killed during the First World War in April 1918.
- ⁸⁵ Established by Royal Charter on 21 May 1917, the Commonwealth War Graves Commission honours the 1.7 million men and women of the Commonwealth forces who died in the First and Second World Wars, and ensures that they will never be forgotten. The Commission's principles are: (1) each of the dead should be commemorated by name on the headstone or memorial; (2) headstones/memorials should be permanent; (3) headstones should be uniform; and (4) no distinction should be made on account of military rank, race or creed ('CWGC About Us' website).
- ⁸⁶ Glossary, Appendix 1.
- ⁸⁷ No. 11 Fighter Squadron (German).
- ⁸⁸ Used by the RFC during the First World War for reconnaissance duties, particularly artillery observation and aerial photography.
- ⁸⁹ Glossary, Appendix 1.
- ⁹⁰ 609.60 metres.
- ⁹¹ A Cross of Sacrifice was erected in most CWGC cemeteries. Designed by architect, Reginald Blomfeld, it was a stone cross with a symbolic sword of bronze attached to its face – this emphasised the military character of the cemetery as well as the religious affiliation of most of the dead (Longworth 2010 [1967]: 36).
- ⁹² It has come to light that the three airmen were concentrated into the site after the war so it cannot be the airman from the crash (pers. comm. 27 June 2018).
- ⁹³ It has since become apparent that the three airmen were concentrated into the site after the war so the airman from this crash is not buried at this site (pers. comm. 27 June 2018).
- ⁹⁴ The Battle of Arras 9 April – 16 May 1917, also termed 'Bloody April', resulted in huge casualties for the RFC, largely due to the Germans having the upper hand in terms of air superiority – their Albatross fighter aeroplane was more technologically advanced than the British fighter aeroplanes.
- ⁹⁵ A memorial in Ypres, Belgium, dedicated to the 54,000 soldiers who died in the Ypres Salient before 16 August 1917 and who have no known grave ('CWGC' website: Menin Gate).
- ⁹⁶ Esquelbecq is a village in France, near the Belgian front, some 24km south of Dunkirk.
- ⁹⁷ Glossary, Appendix 1.
- ⁹⁸ 'A thing that is kept as a reminder of a person, place, or event' (Waite 2012 [1979]: 697).
- ⁹⁹ 3048 metres.
- ¹⁰⁰ 182.88 metres
- ¹⁰¹ Glossary, Appendix 1.
- ¹⁰² The Battle of Messines Ridge, 7 June – 14 June 1917, took place on the Western Front near the village of Messines, West Flanders, Belgium.
- ¹⁰³ 3657.60 metres.

-
- ¹⁰⁴ Glossary, Appendix 1.
- ¹⁰⁵ Glossary, Appendix 1.
- ¹⁰⁶ Glossary, Appendix 1.
- ¹⁰⁷ Books written by servicemen and published both during and immediately after the war were anonymised. Often these books were written using their diaries, and, since it was forbidden for all servicemen to keep a diary or a journal, this made them contested objects.
- ¹⁰⁸ Erected in the Amiens Cemetery, Arras France. Unveiled by Lord Trenchard, Marshal of the Royal Air Force, on 31 July 1932. It commemorates 1,000 airmen from RFC, RAF, and RNAS forces of the Commonwealth who were killed on the Western Front during the First World War and who have no known grave. Arras was the scene of heavy losses at the Battle of Arras 1917, also termed 'Bloody April' ('CWGC Blog' website).
- ¹⁰⁹ Glossary, Appendix 1.
- ¹¹⁰ Glossary, Appendix 1.
- ¹¹¹ Glossary, Appendix 1.
- ¹¹² Glossary, Appendix 1.
- ¹¹³ The battle took place in the Ypres Salient area of the Western Front in and around the town of Passchendaele, Belgium, 26 October – 10 November 1917.
- ¹¹⁴ Through adversity to the stars.
- ¹¹⁵ Glossary, Appendix 1.
- ¹¹⁶ Glossary, Appendix 1.
- ¹¹⁷ Glossary, Appendix 1.
- ¹¹⁸ Shooting down or forcing an enemy aeroplane to land although not necessarily killing German aircrew.
- ¹¹⁹ Although the number 13 is generally considered to be unlucky, there is a contradiction in that odd numbers can also be considered to be lucky, especially the number 3 (Roud 2006: 342).
- ¹²⁰ A magazine for First World War aeroplane enthusiasts and scale modellers.
- ¹²¹ See the *Methuen Handbook of Colour – a universal handbook for people who need to identify and recreate colour* (Kornerup and Wanscher 1967).
- ¹²² Paul Klee (1879–1940) was a Swiss-German artist.
- ¹²³ The Chinese Labour Corps comprised 135,000 Chinese workers recruited by the British Government during the First World War. They were employed from 1916–1922 to undertake support work and manual labour in order to free up troops for the front line on the Western Front. They were employed in ports to unload/load cargoes, lay railway lines, repair roads, and construct aerodromes (Fawcett 2000: 42); as well as dig trenches, fill sandbags and repair tanks and artillery (O'Neill 2016: Loc. 29).
- ¹²⁴ Old Warden Aerodrome, Near Biggleswade, Bedfordshire.
- ¹²⁵ Shuttleworth Museum has provided details of how Lt. Ely made the biplanes, the details being given on a typed information board exhibited alongside the models. Unfortunately, the Museum has no record of the provenance of such details, nor does it have any more records in its archive that would throw light on the matter (pers. comm. 4 July 2017).
- ¹²⁶ The Armistice was signed between the Allies of the First World War and Germany for the cessation of hostilities on the Western Front. It was signed at 11am, 11 November 1918, ending the war but beginning its aftermath.
- ¹²⁷ To my knowledge, all objects included in this thesis are authentic in terms of them being connected to the First World War. However, it is acknowledged that there can be instances where, for example, internet sites offering militaria for sale are selling objects that have been recently made to look like they are objects from the First World War. Caution is advised when purchasing from such sites.
- ¹²⁸ Glossary, Appendix 1.
- ¹²⁹ *Feng shui* means wind and water, both of which flow. *Qi* is the cosmic energy and there are two types – *Sheng Qi* is auspicious and brings life; *Xie Qi* is ominous and brings death (Ruan 1996: 218).

BIBLIOGRAPHY

Notes:

(1) Where Kindle editions of books have been referenced, they are identified as 'Kindle edn.' after the date in the bibliography below. In the text, location numbers are cited as 'Loc.' followed by the location number.

(2) Websites, listed after Bibliography.

BIBLIOGRAPHY

Abram, D., 1997. *The Spell of the Sensuous. Perception and Language in a More-Than-Human World*. New York (NY): Vintage Book.

Aldridge, John Arthur, 1976. Notes on the experiences of John Arthur Aldridge during his service in the 1914–1918 war as a pilot in the Royal Flying Corps. Private documents. University of Leeds, Liddle Collection, AIR 003.

Allen, T., 1932. *The Tracks they Trod; Salonika and the Balkans, Gallipoli, Egypt and Palestine Revisited*. London: Herbert Joseph.

Allingham, H. with D. Goodwin, 2009. *Kitchener's Last Volunteer. The Life of Henry Allingham, the Oldest Veteran of the Great War*. Edinburgh: Mainstream Publishing Company.

Anon. a., 1904. The Machine that Flies. Performance of the Wright Brothers' Aerostat gives promise of success, details of the machine. *The Dallas Morning News*, Sunday, 17 January.

Anon. b., 1927. *The Menin Gate Pilgrimage*. London: St. Barnabas Society.

Anon. c., 1918. *London Gazette (Second Supplement)*, Friday 29 November, 14203–14204. London: Her Majesty's Stationery Office.

Anon. d., n.d. Interpretation Board. Second Lieutenant Frank Wayman Ely: Trench art biplanes. Shuttleworth Collection [visited 4 July 2017].

Anon. e., 1917. *Bromsgrove, Droitwich and Redditch Weekly Messenger*, 19 May.

Anon. f., 1917. Wonder Boy of the Flying Corps. Missing Airman Who Had 42 Victims. Fight in Pyjamas. *The Weekly Despatch*, Sunday, 2 May.

Anon. g., 1915. *Burra Record (SA: 187–1954)*, Wednesday 17 February, p.3, [online]. Available from: <http://nla.gov.au/nla.news-article39037349> [Accessed 4 November 2016].

Anon. h., 1918. Personals. *Flight Magazine*, 24 January, p.108.

- Anon. i., 1918. Personals. *Flight Magazine*, 26 September, p.1094 [online]. Available from: [https://www.flightglobal.com/pdfarchive/view/1918/1918%20-%201094.html?search=guy Ashwin](https://www.flightglobal.com/pdfarchive/view/1918/1918%20-%201094.html?search=guy%20Ashwin) [Accessed 12 April 2017].
- Anon. k., 1918. 'Awards for Bringing down Gothas'. *Flight Magazine*, 6 June, p.609 [online]. Available from: [https://www.flightglobal.com/pdfarchive/view/1918/1918%20-%200611.html?search=anthony arkell](https://www.flightglobal.com/pdfarchive/view/1918/1918%20-%200611.html?search=anthony%20arkell) [Accessed 15 May 2017].
- Anon. l., ed., 2017. *War in the Sunshine. The British in Italy 1917–1918*. Exhibition 13 January – 19 March 2017. London: Estorick Foundation.
- Anon. m., 2013. Historic aircraft 'nose art'. Exhibition RAF Museum Cosford. (<http://www.rafmuseum.org.uk/cosford/whats-going-on/news/historic-aircraft-nose-art-on-display-at-cosford/>) (Accessed 22 May 2013).
- Appadurai, A., ed., 1986. *The Social Life of Things. Commodities in cultural perspective*. Cambridge: Cambridge University Press.
- 1986a. Introduction: commodities and the politics of value. In A. Appadurai, ed. *The Social Life of Things. Commodities in cultural perspective*. Cambridge: Cambridge University Press, 3–63.
- Aristotle, 1986 [350 BC]. *De Anima (On the Soul)*. tr. H. Lawson-Tancred. London: Penguin Books.
- 1938. *De Interpretatione*. tr. H.P. Cook. London: Loeb Classical Library.
- Arkell, Anthony, 1918. Private documents. IWM documents [online] 6706/G and H. Available from: <http://www.iwm.org.uk/collections/item/object/1030031255> [Accessed 10 April 2017].
- Armstrong-Jones, Sir R., 1929. Superstition, *Proceedings of the Royal Society of Medicine* [online], 23(2): 135–141. Available from: <http://journals.sagepub.com/doi/pdf/10.1177/003591572902300236> [Accessed 18 October 2017].
- Ashton, H., 1917. Prayer shops. *Daily Mail*, 17 January, pp.6, 8–13.
- Bachelard, G., 1994 [1958]. *The Poetics of Space: The classic look at how we experience intimate spaces*. Boston (MA): Beacon Press.
- Becker, A., 1998. *War and Faith: The Religious Imagination in France, 1914–1930 (Legacy of the Great War)*. Oxford: Berg.
- Bell, C., 1992. *Ritual Theory. Ritual Practice*. New York (NY): Oxford University Press Inc.
- Bender, B., ed., 1993. *Landscape, Politics and Perspectives*. Oxford: Berg.
- 1993a. Introduction: landscape – Meaning and Action. In B. Bender, ed. *Landscape, Politics and Perspectives*. Oxford: Berg, 1–18.

- 2002. Landscape and Politics. In V. Buchli, ed. *The material culture reader*. Oxford: Berg, 135–140.
- 2006. Place and Landscape. In C. Tilley, W. Keane, S. Küchler, M. Rowlands & P. Spyer, eds. *Handbook of Material Culture*. London: SAGE Publications Ltd, 303–314.

Bergson H., 2008 [1910]. *Time and Free Will. An Essay on the Immediate Data of Consciousness*. New York (NY): Cosimo Classics.

Bickel, L., 1972. Recollections of the Royal Flying Corps. Private documents. University of Leeds, Liddle Collection, AIR 026.

Birks, Norman A., Lieutenant, 1914–1918. Memories of the War Years 1914–1918. Private documents. University of Leeds, Liddle Collection, PoW 003.

Black, J., 2017. 'At the sublime edge of death'. Sydney Carline (1888–1929): Fighter Pilot and Official War Artist in Italy, 1918. In Anon. I., ed. *War in Sunshine. The British in Italy 1917–1918*. Exhibition 13 January – 19 March 2017. London: Estorick Foundation, 18–32.

Boivin, N., 2008. *Material Cultures, Material Minds. The Impact of Things on Human Thought, Society, and Evolution*. Cambridge: Cambridge University Press.

Bott, A., 1976 [1916]. *An Airman's Outings with the RFC, June – December 1916*. Elstree: Greenhill Books.

Bourdieu, P., 1977. *Outline of a Theory of Practice*. tr. R. Nice. Cambridge: Cambridge University Press.

- 1979. *Algeria 1960. The disenchantment of the world. The sense of honour, the Kabyle house or the world reversed*. tr. R. Nice. Cambridge, London, & New York (NY): Cambridge University Press.

- 2010 [1984]. *Distinction*. tr. R. Nice. London & New York (NY): Routledge.

Bourgeois, J., & B. Stichelbaut, 2009. Images of Conflict: An Introduction. In B. Stichelbaut, J. Bourgeois, N. Saunders, P. Chielens, eds. *Images of Conflict. Military Aerial Photography and Archaeology*. Newcastle Upon Tyne: Cambridge Scholars Publishing, 1–12.

Bourne, J., P. Liddle & I. Whitehead, eds., 2001. *The Great World War 1914–45, Volume 2, The peoples' experience*. London: HarperCollinsPublishers.

Bowen, Eynon, 1915–1916. Private documents. University of Leeds, Liddle Collection, AIR 35.

Brancker, Major-General W.S., 1976 [1916]. Introduction. In Alan Bott. *An Airman's Outings with the RFC, June – December 1916*. Elstree: Greenhill Books.

- Brandon, S., 2000. *Buttonhooks and Shoehorns*. Princes Risborough: Shire Publications Ltd.
- Bratley, G.H., 1907. *The Power of Gems and Charms*. London: Gay & Bird.
- Breithoff, E., 2017. The 'white death'. Thirst and water in the Chaco War. In N.J. Saunders & P. Cornish, eds. *Modern Conflict and the Senses*. London & New York (NY): Routledge, 213–228.
- Brewer, C., 1948. *The Spice of Variety*. London: Frederick Muller Ltd.
- Brokensha, H., 2008. Prologue – December 1917. In J. Levine. *On a Wing and a Prayer*. London: Collins, 2–6.
- Brück, J., 1998. In the Footsteps of the Ancestors: A Review of Christopher Tilley's *A Phenomenology of Landscape: Places, Paths and Monuments*. In C. Jones & C. Hayden, eds. *The Archaeology of Perception, Archaeological Review from Cambridge*, 15(1): 23–36.
- 2005. Experiencing the past? The development of a phenomenological archaeology in British prehistory. *Archaeological Dialogues*, 12(1): 45–72.
- Bruton, E., 2016. Signalling at the Battle of Passchendaele, July to November 1917. (<http://blogs.mhs.ox.ac.uk/innovatingincombat/>) [Accessed 18 March 2018].
- Buchli, V., ed., 2002. *The material culture reader*. Oxford & New York (NY): Berg.
- 2002a. Introduction. In V. Buchli, ed. *The material culture reader*. Oxford & New York (NY): Berg, 1–22.
- Buchli, V. & G. Lucas, eds., 2001. *Archaeologies of the Contemporary Past*. Oxford: Routledge.
- 2001a. The absent present. In V. Buchli & G. Lucas, eds. *Archaeologies of the Contemporary Past*. Oxford: Routledge, 3–18.
 - 2001b. Between remembering and forgetting. In V. Buchli & G. Lucas, eds. *Archaeologies of the Contemporary Past*. Oxford: Routledge, 79–83.
- Bull, M. & L. Back, eds., 2003. *The Auditory Culture Reader*. Oxford & New York (NY): Berg.
- Bynam, W.F. & R. Porter, eds., 1993. *Medicine and the Five Senses*. Cambridge: Cambridge University Press.
- Cabeldu, Alfred, H., 1917. Collection of Personal Letters written to his family. Private documents. University of Leeds, Liddle Collection, AIR 061.
- Campion Vaughan, E., 1981. *Some Desperate Glory: The Diary of a Young Officer, 1917*. New York (NY): Simon & Schuster.

Cardinal, R., 1994. *Collecting and Collage-Making: The Case of Kurt Schwitters*. In J. Elsner & R. Cardinal, eds. *Cultures of Collecting (Critical Views)*. London: Reaktion Books Ltd, Ch 4.

Carpenter, E., 1973. *Oh, What a Blow That Phantom Gave Me!* Toronto, New York (NY), London: Bantam Books.

Castle, I., 1919. *My Husband*. London: John Lane. The Bodley Head.

Chadwick, A.M., ed., 2004. *Stories from the Landscape. Archaeologies of Inhabitation* BAR International Series 1238. Oxford: Archaeopress

Chadwick, A.M., 2004a. 'Geographies of sentience' – an introduction to space, place and time. In A.M. Chadwick, ed. *Stories from the Landscape. Archaeologies of Inhabitation* BAR International Series 1238. Oxford: Archaeopress, 1–31.

Chambers, V., 2004. A Shell with my Name on it: The Reliance on the Supernatural during the First World War. In D. Evans, ed. *Journal for the Academic Study of Magic – Issue 2*. Oxford: Mandrake of Oxford, 79–102.

Cieraad, I., ed., 2006. *At Home. An Anthropology of Domestic Space*. Syracuse (NY): Syracuse University Press

Clark, A., 1999 [1973]. *Aces High. The War in the Air over the Western Front 1914–1918*. London: Cassell & Co.

Classen, C., 1997. Foundations for an anthropology of the senses. *International Social Science Journal*, 153: 401–412.

- 1998. *The Color of Angels: Cosmology, Gender and Aesthetic Imagination*. London & New York (NY): Routledge.
- 1999. Other Ways to Wisdom: Learning Through the Senses Across Cultures. *International Review of Education*, 45(3/4): 269–280.
- ed., 2005. *The Book of Touch*. Oxford & New York (NY): Berg.
- 2012. *The Deepest Sense. A Cultural History of Touch*. Urbana (OH), Chicago (IL) & Springfield (IL): University of Illinois Press.

Classen, C., D. Howes & A. Synott, 1994. *Aroma: The Cultural History of Smell*. London & New York (NY): Routledge.

Compston, R.J.O., 2009 [1931]. The Flight Commander. In E.G. Johnstone, ed. *Naval Eight. A History of No. 8 Squadron R.N.A.S. – afterwards No. 208 Squadron R.A.F. – from formation in 1916 until the Armistice 1918*. Naval & Military Press in association with the Imperial War Museum, 73–103.

Connerton, P., 1989. *How Societies Remember*. Cambridge: Cambridge University Press.

- Connor, S., 2010. Kindle edn. *The Matter of Air Science and Art of the Ethereal*. London: Reaktion Books.
- Cook, T., 2003. Dying like so many rats in a trap. *The Army and Doctrine Training Bulletin* 5(4): 47–56.
- Copeland Maltby, Paul, 1915–1916. Personal diary of Captain Paul Copeland Maltby, 15 Squadron RFC, 23 Dec 1915–24 May 1916. RAF Museum Hendon, AC73/15/2/5.
- Corbin, A., 1999. *Village Bells. Sound and Meaning in the Nineteenth-century French Countryside*. tr. M. Thom. London: Papermac.
- Cornish, P., 2012. Afterword. In N.J. Saunders, ed. *Beyond the Dead Horizon. Studies in Modern Conflict Archaeology*. Oxford: Oxbow Books, 259–261.
- 2013. ‘Just a Boyish Habit’ ...? British and Commonwealth War Trophies in the First World War. In N.J. Saunders & P. Cornish, eds. *Contested Objects. Material Memories of the Great War*. London & New York (NY): Routledge, 11–26.
- Cornish, P. & N.J. Saunders, eds., 2014. *Bodies in Conflict. Corporeality, Materiality and Transformation*. London & New York (NY): Routledge.
- Cosgrove, D.E., 1998 [1984]. *Social Formation and Symbolic Landscape. With a new introduction*. London: University of Wisconsin Press.
- Costall, A., 2006. On Being the Right Size Affordances and the Meaning of Scale. In G. Lock & B. L. Molyneaux, eds. *Confronting Scale in Archaeology. Issues of Theory and Practice*. New York (NY): Springer, 15–26.
- Crawford, O.J.S., 1921. *Man and His Past*. Oxford: Oxford University Press.
- 1923. Air Survey and Archaeology. *The Geographical Journal*, 61(5): 342–360.
 - 1929. *Air Photography for Archaeologists. Ordnance Survey Professional Papers. New Series No. 12*. London: Her Majesty’s Stationery Office.
- Crummy, P., 1983. *Colchester Archaeological Report 2; the Roman small finds from excavations in Colchester*. Colchester 1971–1979: Colchester Archaeological Trust Ltd.
- Csordas, J., 1990. Embodiment as a Paradigm for Anthropology, *Ethos* [online], 18(1): 5–47. Available from: <http://www.jstor.org/stable/640395/> [Accessed 18 January 2012].
- ed., 1994. *Embodiment and Experience. The Existential Ground of Culture and Self*. Cambridge: Cambridge University Press.
 - 1994a. Introduction. In J. Csordas, ed. *Embodiment and Experience. The Existential Ground of Culture and Self*. Cambridge: Cambridge University Press, 1–24.

- D'Alto, N., 2016. Inventing the Invisible Airplane. When camouflage was fine art, *Air & Space Magazine* [online], August. Available from: <http://airspacemag.com/military-aviation/art-camouflage-180959768/> [Accessed 19 March 2017].
- Das, S., 2005. *Touch and Intimacy in First World War Literature*. Cambridge: Cambridge University Press.
- Davies, John William, 1987. Interview with John William Davies (recorded and interviewed by Conrad Wood). (IWM Cat. No. 10078). London: IWM Production Co. (<https://www.iwm.org.uk/collections/item/object/80009860>) [Accessed 16 March 2017].
- Day, J., ed., 2013. *Making Senses of the Past: Toward a Sensory Archaeology*. Carbondale, IL: Center for Archaeological Investigations: Southern Illinois University.
- 2013a. Introduction: Making Senses of the Past. In J. Day, ed. *Making Senses of the Past: Toward a Sensory Archaeology*. Carbondale, IL: Center for Archaeological Investigations: Southern Illinois University, 1–31.
- DeMarrais, E., C. Gosden & C. Renfrew, eds., 2004. *Rethinking Materiality. The engagement of the mind with the material world*. McDonald Institute or Archaeological Research: University of Cambridge.
- DeMarrais, E., C. Gosden & C. Renfrew, 2004a. Introduction. In E. DeMarrais, C. Gosden & C. Renfrew, eds. *Rethinking Materiality. The engagement of the mind with the material world*. McDonald Institute or Archaeological Research: University of Cambridge, 1–7.
- DeMarrais, E., L.J. Castillo & T. Earle, 1996. Ideology, materialisation, and power strategies. *Current Anthropology*, 37: 15–31.
- Dendooven, D., 2009. The Journey Back. On the nature of donations to the 'In Flanders Fields Museum'. In N.J. Saunders & P. Cornish, eds. *Contested Objects. Material Memories of the Great War*. London & New York (NY): Routledge, 60–72.
- Douglas, M., 2002 [1966]. *Purity and Danger. An analysis of concept of pollution and taboo*. Abingdon & New York (NY): Routledge.
- 1990 [1954]. Foreword. No free gifts. In M. Mauss. *The Gift. The form and reason for exchange in archaic societies*. tr. W.D. Halls. London & New York (NY): Routledge, ix–xxiii.
- Douglas, M. & B. Isherwood, 1979. *The World of Goods: Towards an Anthropology of Consumption*. London: Allen Lane.
- Downing, H.G., 1916–1917. Private documents. IWM Docs 6.
- Drobnick, J., ed., 2006. *The Smell Culture Reader*. Oxford & New York (NY): Berg.
- Dunn, M., 1941. Some airmen have queer superstitions. Many and quaint are the mascots and talismans adopted, but skill is more important than luck nowadays,

Supplement to the Argus (Melbourne), Saturday 4 October, p.2 [online]. Available from: <http://trove.nla.gov.au/ndp/del/article/8208493> [Accessed 18 June 2013].

Edholm, F., 1993. The View from Below: Paris in the 1880s. In B. Bender, ed. *Landscape, Politics and Perspectives*. Oxford: Berg, 139–168.

Edwards, E., 1999. Photographs as Objects of Memory. In M. Kwint, C. Breward & J. Aynsley, eds. *Material Memories: Design and Evocation*. Oxford: Berg, 221–236.

Edwards, E., C. Gosden & R.B. Phillips, eds., 2006. *Sensible Objects. Colonialism Museums and Material Culture*. Oxford & New York (NY): BERG.

Edwards, E., C. Gosden & R.B. Phillips, 2006a. Introduction. In E. Edwards, C. Gosden & R.B. Phillips, eds. *Sensible Objects. Colonialism Museums and Material Culture*. Oxford & New York (NY): BERG, 1–31.

Eksteins, M., 1990. *Rites of Spring. The Great War and the Birth of the Modern Age*. London: Black Swan.

Elsner J. and R. Cardinal, eds., 1994. *Cultures of Collecting (Critical Views)*. London: Reaktion Books Ltd.

Ettawageshik, F., 1999. My Father's Business. In R.B. Phillips & C.B. Steiner, eds. *Unpacking Culture. Art and Commodity in Colonial and Postcolonial Worlds*. London: University of California Press, 20–29.

Evans, A.J., 1923. *The Escaping Club*. London: John Lane The Bodley Head Ltd.

Evans, D., ed., 2004. *Journal for the Academic Study of Magic – Issue 2*. Oxford: Mandrake of Oxford.

Evans-Pritchard, E.E., 1937. *Witchcraft, Oracles and Magic among the Azande*. Oxford: Clarendon.

Farmer, D., 2011. *Oxford Dictionary of Saints*. Oxford: Oxford University Press.

Fawcett, B.C., 2000. The Chinese Labour Corps in France 1917–1921, *Journal of the Royal Asiatic Society Hong Kong Branch* [online], 40: 33–111. Available from: <http://www.jstor.org/stable/23895259> [Accessed 10 April 2017].

Feld, S. & K. Basso, eds., 1996. *Senses of Place*. Santa Fe (NM): School of American Research Publications.

Fitzsimons, P., 2010. *Charles Kingford Smith and Those Magnificent Men*. Australia & New Zealand: Harper Collins.

Fleming, A., 2006. Post-processual Landscape Archaeology: A Critique, *Cambridge Archaeological Journal* [online], 16: 267–280. Available from: <https://doi.org/10.1017/S0959774306000163> [Accessed 4 May 2016].

- Fletcher, A., 2013. *Life, Death, and Growing up on the Western Front*. Yale: Yale University Press, [online]. Available from: <http://www.jstor.org/stable/j.ctt5vm012.23> [Accessed 7 May 2017].
- Formanek-Brunell, M., ed., 1997. *The Story of Rose O'Neill: An Autobiography*. Missouri: University of Missouri Press.
- Forty, A., 1999. Introduction. In A. Forty & S. Küchler, eds. *The Art of Forgetting*. Oxford: Berg, 1–18.
- Forty, A. & S. Küchler, eds., 1999. *The Art of Forgetting*. Oxford: Berg.
- Franks, N., H. Giblin & N. McCrery, 2007. *Under the Guns of the Red Baron. The Complete Record of Von Richtofen's Victories and Victims Fully Illustrated*. London: Grub Street.
- Frazer, J.G., 1994 [1911]. *The Golden Bough. A study in magic and religion*. Oxford & New York (NY): Oxford University Press.
- Fussell, P., 2000 [1975]. *The Great War and Modern Memory*. Oxford: Oxford University Press.
- Gascoyne, J.V., 1972. Interview with James Gascoyne (recorded and interviewed by David G. Lance), 12 January 1972 (IWM Cat. No. 16). London: IWM Production Co. (<https://www.iwm.org.uk/collections/item/object/80000016>) [Accessed 16 March 2017].
- Geldard, F. A., 1953. *The Human Senses*. New York (NY): John Wiley & Sons Inc.
- Gell, A., 1977. Magic, perfume, dream. In I. Lewis, ed. *Symbols and Sentiments: Cross Cultural Studies in Symbolism*. London & New York (NY): Academic Press, 25–38.
- 1995. The Language of the Forest: Landscape and Phonological Iconism in Umeda. In E. Hirsch & M. O'Hanlon, eds. *The Anthropology of Landscape. Perspectives on Place and Space*. Oxford & New York (NY): Oxford University Press, 232–254.
 - 1998. *Art and Agency. An Anthropological Theory*. Oxford & New York (NY): Oxford University Press.
- Geurts, K., 2002. Kindle edn. *Culture and the Senses. Bodily Ways of Knowing in an African Community*. Berkeley (CA) & Los Angeles (CA): University of California Press.
- Gibson, James J., 1950. *The Perception of the Visual World*. Boston (MA): Houghton Mifflin Company.
- 1966. *The Senses Considered as a Perceptual System*. Boston (MA): Houghton Mifflin Company.
 - 1986 [1979]. *The Ecological Approach to Visual Perception*. Hillsdale (NJ): Lawrence Erlbaum Associates, Inc.

- Gilman, S., 1993. Touch, Sexuality and Disease. In W.F. Bynam & R. Porter, eds. *Medicine and the Five Senses*. Cambridge: Cambridge University Press, 198–224.
- Gordon, B., 1986. The Souvenir: Messenger of the Extraordinary, *Journal of Popular Culture* [online], 20(3): 135–146. Available from: <https://search.proquest.com/docview/1297348759/fulltext/FA8382FC634946B2PQ/1?accountid=9730> [Accessed 21 August 2017].
- Gosden, C., 2001. Making Sense: Archaeology and Aesthetics, *World Archaeology* [online], 33(2): 163–167. Available from: <http://www.jstor.org/stable/827896> [Accessed 10 June 2017].
- Gosden, C. & Y. Marshall, 1999. The cultural biography of objects, *World Archaeology* [online], 31(2): 169–178. Available from: <http://www.jstor.org/stable/125055> [Accessed 10 June 2017].
- Gould Lee, A., 1969. *No Parachute. The Exploits of a Fighter Pilot in the First World War*. London: Arrow Books Ltd.
- Gould, R., 2000. Memories of my time in the Air Force. Written in May 2000, some 65 years after the events with the aid of his two flying log books. Private documents. RAF Museum Hendon, Accession No X-004-1500.
- Gould, R.A. & M.B. Schiffer, eds., 1981. *Modern Material Culture Studies: The Archaeology of Us (Studies in Archaeology)*. New York (NY): Academic Press.
- Grasseni, C., ed., 2007. *Skilled Visions. Between Apprenticeship and Standards*. Oxford: Berghahn.
- 2007a. Introduction. In C. Grasseni, ed. *Skilled Visions. Between Apprenticeship and Standards*. Oxford: Berghahn, 1–19.
- Graves-Brown, P.M., ed., 2000. *Matter, Materiality and Modern Culture*. London: Routledge.
- 2000a. Introduction. In P.M. Graves-Brown, ed. *Matter, Materiality and Modern Culture*. London: Routledge, 1–9.
- Grinnell-Milne, D., 1957 [1933]. *Wind in the Wires*. London: Hamilton & Co (Stafford) Ltd.
- Gwinnell. 1919. Souvenirs. In Major-General H.B. Williams, ed. *The Golden Horseshoe. Written and Illustrated by Men of the 37th Division B.E.F.* London, New York, Toronto & Melbourne: Cassell & Company Ltd, 46–47.
- Hallam, E. & J. Hockey, 2001. *Death, Memory and Material Culture*. Oxford & New York (NY): Berg.
- Hamilakis, Y., 2002. The past as oral history: towards an archaeology of the senses. In Y. Hamilakis, M. Pluciennik & S. Tarlow, eds. *Thinking through the Body. Archaeologies of Corporeality*. New York (NY): Kluwer Academic/Plenum Publishers, 121–136.

- Hamilakis, Y., M. Pluciennik & S. Tarlow, eds. 2002. *Thinking through the Body. Archaeologies of Corporeality*. New York (NY): Kluwer Academic/Plenum Publishers.
- Hammerton, J.A., ed., 1914. Civilian Curiosity in the Evidences of War 19 December, *The War Illustrated. A Pictorial Record of the Conflict of the Nations, Volume I*. London: The Amalgamated Press Ltd.
- Hart, P., 2005. *Bloody April Slaughter in the Skies over Arras, 1917*. London: Cassell.
- Hauge, B., 2013. The air from outside: Getting to know the world through air practices. *Journal of Material Culture*, 18(2): 171–187.
- Hegel, G.W.F., 1975. *Aesthetics*. tr. T.M. Knox. Oxford: Clarendon Press.
- Heidegger, M., 2005 [1962]. *Being and Time*. tr. J. Macquarrie & E. Robinson. Oxford: Blackwell Publishing Ltd.
- Helms, M.W., 1988. *Ulysses' Sail: An Ethnographic Odyssey of Power, Knowledge and Geographical Distance*. Princeton (NJ): Princeton University Press.
- Hertz, R., 1973 [1909]. The pre-eminence of the right hand: a study of religious polarity. In Robert Needham, ed. *Right and Left: Essays on Dual Symbolic Classification*. tr. R. Needham. Chicago (IL) & London: University of Chicago Press, 3–31.
- Hicks, D., 2010. The material culture turn. Event and effect. In D. Hicks & M.C. Beaudry, eds. *The Oxford Handbook of Material Culture Studies*. Oxford: Oxford University Press, 25–98.
- Hicks, D. & M.C. Beaudry, eds., 2010. *The Oxford Handbook of Material Culture Studies*. Oxford: Oxford University Press.
- Hicks, D. & M.C. Beaudry, 2010a. Introduction: a reactionary view. In D. Hicks & M.C. Beaudry, eds. *The Oxford Handbook of Material Culture Studies*. Oxford: Oxford University Press, 1–21.
- Hicks, D., G. Milne, J. Shepherd & R. Skeates, 2009. *Excavating the Archives: archive archaeology and the higher education sector*. London: Higher Education Funding Council for England.
- Hildburgh, W.L., 1951. Psychology Underlying the Employment of Amulets in Europe, *Folklore* [online], 62(1): 231–251. Available from: <http://www.jstor.org/stable/1257512> [Accessed 14 May 2013].
- Hill, J., 2007. The Story of the Amulet. Locating the Enchantment of Collections, *Journal of Material Culture* [online], 12(1): 65–87. Available from: <http://journals.sagepub.com/doi/abs/10.1177/1359183507074562> [Accessed 4 June 2016].

- Hirsch, E., 1995. Introduction. *Landscape: Between Space and Place*. In E. Hirsch & M. O’Hanlon, eds. *The Anthropology of Landscape. Perspectives on Place and Space*. Oxford: Clarendon Press, 1–30.
- Hirsch, E. & M. O’Hanlon, eds., 1995. *The Anthropology of Landscape. Perspectives on Place and Space*. Oxford: Clarendon Press.
- Hodder, I., 1982a. *Symbols in Action: ethnoarchaeological studies of material culture*. Cambridge: Cambridge University Press.
- ed., 1982b. *Symbolic and Structural Archaeology*. Cambridge: Cambridge University Press.
- Hodder, I. & S. Hutson, 2003 [1986]. *Reading the Past. Current Approaches to Interpretation in Archaeology*. Cambridge: Cambridge University Press.
- Holman Jones, S., T. E. Adams & C. Ellis, eds., 2013. *Handbook of Autoethnography*. Walnut Creek (CA): Left Coast Press Inc.
- Holt, T. & V. Holt, 1996. *Major & Mrs Holt’s Battlefield Guide to the Somme*. London: Leo Cooper.
- Hopkins, Mayne, G., 1972. Pusher Pilot with 22. Recollections of 2/Lt. Geoffrey Mayne Hopkins, 22 Squadron, RFC. With additional narrative and information by Capt. H. Rupert Hawkins. *Cross & Cockade Great Britain Journal*, 3(2): 45–57.
- Hoskins, J., 1998. *Biographical Objects. How Things Tell the Stories of People’s Lives*. London & New York (NY): Routledge.
- 2006. Agency, Biography and Objects. In C. Tilley, W. Keane, S. Küchler, M. Rowlands & P. Spyer, eds. *Handbook of Material Culture*. London: SAGE Publications Ltd, 74–84.
- Houston, S. & K. Taube, 2000. An archaeology of the senses: perception and cultural expression in ancient Mesoamerica. *Cambridge Archaeological Journal*, 10(2): 261–294.
- Howes, D., ed., 1991. *The Varieties of Sensory Experience*. Toronto: University of Toronto Press.
- 1991a. Introduction. To summon all the senses. In D. Howes, ed. *The Varieties of Sensory Experience*. Toronto: University of Toronto Press, 3–21.
- 1991b. Sensorial Anthropology. In D. Howes, ed. *The Varieties of Sensory Experience* Toronto: University of Toronto Press, 167–191.
- ed., 2005. *Empire of the Senses. The Sensual Culture Reader*. Oxford: Berg.
- 2005a. Sensation in Cultural Context. In D. Howes, ed. *Empire of the Senses. The Sensual Culture Reader*. Oxford: Berg, 143–145.

- 2005b. Skinscapes. Embodiment, Culture, and Environment. In C. Classen, ed. *The Book of Touch*. Oxford & New York (NY): Berg, 27–39.
- 2006. Scent, Sound and Synaesthesia. In C. Tilley, W. Keane, S. Küchler, M. Rowlands & P. Spyer, eds. *Handbook of Material Culture*. London: SAGE Publications Ltd, 161–172.
- 2017. Foreword. The Engagement of the Senses. In N.J. Saunders & P. Cornish, eds. *Modern Conflict and the Senses*. London & New York (NY): Routledge, xix–xxiii.

Howes, D. & C. Classen, 1991. Conclusion. Sounding Sensory Profiles. In D. Howes, ed. *The Varieties of Sensory Experience*. Toronto: University of Toronto Press, 257–288.

Husserl, E., 1966. *The Phenomenology of Internal Time-Consciousness*. Bloomington (IN): Indiana University Press.

Ingold, T., 2000. *The Perception of the Environment. Essays in livelihood, dwelling and skill*. London: Routledge.

- ed., 2002 [1994]. *Companion Encyclopedia of Anthropology*. London: Routledge.
- 2005. The eye of the storm: visual perception and the weather, *Visual Studies* [online], 20(2): 97–104. Available from: <https://doi.org/10.1080/14725860500243953> [Accessed 6 November 2018].
- 2007. Materials against materiality, *Archaeological Dialogues* [online], 14(1): 1–16. Available from: <https://doi.org/10.1017/S138020380700212>: 7. [Accessed 2 October 2018].
- 2007a. Earth, sky, wind, and weather, *Journal of the Royal Anthropological Institute (N.S.)* [online], S19–38. Available from: <http://www.jstor.org/stable/4623118> [Accessed 29 August 2018].
- 2011. *Being Alive. Essays on Movement, Knowledge and Description*. Abingdon: Routledge.

Isyanova, G., 2009. The Consumer Sphinx. From French trench to Parisian market. In N.J. Saunders & P. Cornish, eds. *Contested Objects. Material Memories of the Great War*. London & New York (NY): Routledge, 130–143.

Jackson, P., 2004. *Inside Clubbing: Sensual Experiments in the Art of Being Human*. Oxford & New York (NY): Berg.

Johnstone, E.G., ed., 2009 [1931]. *Naval Eight. A History of No. 8 Squadron R.N.A.S. – afterwards No. 208 Squadron R.A.F. – from formation in 1916 until the Armistice 1918*. Naval & Military Press in association with the Imperial War Museum.

Jones, C., ed., 2006. *Sensorium. Embodied Experience, Technology, and Contemporary Art*. Massachusetts (MA): MIT Press.

- 2006a. Introduction. In C. Jones, ed. *Sensorium. Embodied Experience, Technology, and Contemporary Art*. Massachusetts (MA): MIT Press, 1–4.
- Jones C., & C. Hayden, eds., 1998. The Archaeology of Perception, *Archaeological Review from Cambridge*, 15(1).
- Jones, I., ed., 1934. *King of Air Fighters. Biography of Major Mick Mannock VC, DSO, MC*. London: Ivor Nicholson & Watson Ltd.
- Jünger, E., 2004 [1920]. *Storm of Steel*. tr. M. Hoffmann. London: Penguin Books Ltd.
- Kaizer, M., 1917. Copies of letters received from 2nd Lt. M. Kaizer whilst serving in France 1917, 18 Sqn. Private documents. University of Leeds, Liddle Collection, PoW039.
- Kemp, A., 2000. Little Red Devil. *Cross & Cockade International Journal*, 31(3): 148–150.
- Kimball, J. A., 2004. *Trench Art. An Illustrated History*. California: Silverpenny Press.
- Klee, F., ed., 1964. *The Diaries of Paul Klee 1898–1918*. Los Angeles (CA) & London: University of California Press.
- Kopytoff, I., 1986. The cultural biography of things: commoditization as process. In A. Appadurai, ed. *The social life of things. Commodities in cultural perspective*. Cambridge: Cambridge University Press, 64–91.
- Kornerup, A. & J. H. Wanscher, 1967. *Methuen Handbook of Colour (Danish & English Edition)*. London: Eyre Methuen.
- Korsmeyer, C., ed., 2005. *The Taste Culture Reader. Experiencing Food and Drink*. Oxford & New York (NY): Berg.
- Kwint, M., 1999. Introduction. In M. Kwint, C. Breward & J. Aynsley, eds. *Material Memories: Design and Evocation*. Oxford: Berg, 1–16.
- Kwint, M., C. Breward & J. Aynsley, eds., 1999. *Material Memories: Design and Evocation*. Oxford: Berg.
- Langham, R., 2016. Kindle edn. *Bloody Paralyser. The Giant Handley Page Bombers of the First World War*. UK: Fonthill Media Ltd.
- Latour, B., 1993. Kindle edn. *We have Never Been Modern*. tr. C. Porter. Cambridge (MA): Harvard University Press.
- 2006. Air. In C.A. Jones, ed. *Sensorium. Embodied experience, technology, and contemporary art*. Massachusetts (MA): MIT Press, 105–107.
- Lawson, E. & J. Lawson, 1996. *Great Air Campaigns. The First Air Campaign August 1914–November 1918*. Cambridge (MA): Da Capo Press.

- Le Blanc Smith, M., 1982. Private documents. University of Leeds, Liddle Collection, AIR 295.
- Leed, E.J., 2009 [1979] *No Man's Land. Combat & Identity in World War I*. Cambridge: Cambridge University Press.
- Leonard, M., 2015. *Making Sense of Subterranean Conflict: Engaging Landscapes Beneath the Western Front 1914–2015*. Thesis. (PhD). University of Bristol.
- 2017. Assaulting the Senses: life and landscape beneath the Western Front. In N.J. Saunders & P. Cornish, eds. *Modern Conflict and the Senses*. London & New York (NY): Routledge, 43–60.
- Leslie, S., ed., 1924. *Memoirs of Brigadier-General Gordon Shephard D.S.O., M.C*. Privately printed.
- Leuzinger, E., 1960. *Africa: The Art of the Negro People*. New York (NY): McGraw-Hill.
- Levine, J., 2008. *On a Wing and a Prayer*. London: Collins.
- Lévi-Strauss, C., 1966. *The Savage Mind*. tr. George Weidenfeld & Nicolson Ltd. Chicago (IL): University of Chicago Press.
- Lewis, C., 2009 [1936]. *Sagittarius Rising*. London: Frontline Books, licensed from Greenhill Books.
- 1964. *Farewell to Wings*. London: Temple Press Books Limited.
- Lewis, I., ed., 1977. *Symbols and Sentiments: Cross Cultural Studies in Symbolism*. London & New York (NY): Academic Press.
- Lidsey, William John (Jack), 1916–1917. Private documents. IWM Docs 16504.
- Lloyd, D., 1998. Kindle edn. *Battlefield Tourism. Pilgrimage and the Commemoration of the Great War in Britain, Australia and Canada 1919–1939*. London: Bloomsbury.
- Lloyd Sproule, Eric Randall, 1917–1918. Letters to his mother covering the entire period of his service and captivity, from 1 January 1917–4 December 1918. Private documents. RAF Museum Hendon, AC97/69/22.
- Lock, G. & B. L. Molyneaux, eds., 2006. *Confronting Scale in Archaeology. Issues of Theory and Practice*. New York (NY): Springer.
- Longworth, P., 2010 [1967]. *The Unending Vigil. The History of the Commonwealth War Graves Commission*. Barnsley: Pen & Sword Military.
- Lorraine, W., 1938. *Robert Lorraine. Soldier, Actor, Airman*. London: Collins Publishers.
- Lovett, E., 2014 [1925]. *Magic in Modern London (with Folklore & Legends of the Surrey Hills and of the Sussex Downs & Forests)*. Red Thread Books.

- 2014 [1928]. *Folklore & Legends of the Surrey Hills and of the Sussex Downs & Forests (with Magic in Modern London)*. Red Thread Books.

Lucas, L., ed., 1987. *Out of the Blue. The Role of Luck in Air Warfare 1917–1966*. London: Grafton Books.

MacCarron, D., 2006. *Letters from an Early Bird – the Life and Letters of Denys Corbett Wilson 1882–1915*. Barnsley: Pen & Sword Aviation.

MacDonagh, M., 1916. The Wearing of Religious Emblems at the Front, *The Occult Review* [online], XXIV(5): 266–274. Available from: http://www.iapsop.com/archive/materials/occult_review/occult_review_v24_n5_nov_1916.pdf [Accessed 16 May 2017].

MacGregor, G., 1999. Making sense of the past in the present: a sensory analysis of carved stone balls, *World Archaeology* [online], 31(2): 258–271. Available from: <http://www.jstor.org/stable/125061> [Accessed 29 November 2011].

MacKenzie, S.P., 2015. Beating the Odds: Superstition and Human Agency in RAF Bomber Command, 1942–1945, *War in History* [online], 22(3): 382–400. Available from: <http://journals.sagepub.com/doi/full/10.1177/0968344514525938> [Accessed 18 October 2017].

- 2017. *Flying Against Fate: Superstition and Allied Aircrews in World War II*. Kansas: University Press of Kansas.

Maclennan, R.W., 2009. *The Ideals and Training of a Flying Officer*. Manchester: Crécy Publishing Ltd.

Macmillan, N., 2015 [1929]. Kindle edn. *Into the Blue*. London: Grub Street.

Malinowski, B., 2015 [1922]. *Argonauts of the Western Pacific. An account of native enterprise and adventure in the Archipelagoes of Melanesian New Guinea*. London & New York (NY): Routledge Classics.

- 1925. Magic, Science and Religion. In J. Needham, ed. *The Science, Religion and Reality*. New York (NY): The MacMillan Company, 19–84.

Marriott-Smith, A.J., 1989. *Aeronautica. Collectables relating to Military and Naval Airforces of the World 1914–1984. An Illustrated Reference Guide for Collectors*. London: Arms & Armour Press.

Mauss, M., 1979 [1935]. The Notion of Body Techniques. In M. Mauss, ed. *Sociology and Psychology. Essays*. tr. Ben Brewster. London: Routledge & Kegan Paul, 95–123.

- ed., 1979a [1935a] *Sociology and Psychology. Essays*. tr. Ben Brewster. London: Routledge & Kegan Paul.

- 1990 [1954]. *The Gift. The form and reason for exchange in archaic societies.* tr. W.D. Halls. London & New York (NY): Routledge.

McCudden, J.M., V.C., 1987 [1918]. *Flying Fury. Five Years in the Royal Flying Corps.* Elstree: Lionel Leventhal Ltd.

McHardy, A., 2007 [1918]. *An Airman's Wife: A True Story of Lovers Separated by War.* London: Grub Street.

McLuhan, M., 1962. *The Gutenberg Galaxy.* Toronto: University of Toronto Press.

'McScotch', 1985 [1936]. *Fighter Pilot.* London: Greenhill Books, Lionel Leventhal Ltd.

Merleau-Ponty, M., 2002 [1958]. *Phenomenology of Perception.* tr. C. Smith. London & New York (NY): Routledge.

Meskell, L., 1996. The somatisation of archaeology: institutions, discourses, corporeality. *Norwegian Archaeological Review*, 29(1): 1–16.

- 2004. *Object Worlds in Ancient Egypt: Material Biographies Past and Present.* Oxford: Berg.
- 2005. Objects in the Mirror Appear Closer than they are. In D. Miller, ed. *Materialities.* Durham (NC) & London: Duke University Press, 50–71.

Middleton, D. & D. Edwards, eds., 1990. *Collective Remembering.* London: Sage Publications Ltd.

Miller, D., 1983. *Things ain't what they used to be,* *Royal Anthropological Institute News* [online], 59: 5–7. Available from: <http://www.jstor.org/stable/3033463> [Accessed 11 December 2016].

- 1987. *Material Culture and Mass Consumption.* Oxford: Blackwell.
- ed., 1998. *Material cultures: Why some things matter.* London: UCL Press.
- 1998a., Why some things matter. In D. Miller, ed. *Material cultures: Why some things matter.* London: UCL Press, 3–21.
- 2002 [1994]. Artefacts and the Meaning of Things. In T. Ingold, ed. *Companion Encyclopedia of Anthropology.* London: Routledge, 396–419.
- ed., 2005. *Materialities.* Durham (NC) & London: Duke University Press.
- 2005a. Materiality: An Introduction. In D. Miller, ed. *Materialities.* Durham (NC) & London: Duke University Press, 1–50.
- 2010. *Stuff.* Cambridge: Polity Press.

Miller, D. & C. Tilley, 1996. Editorial. *Journal of Material Culture*, 1: 5–14.

- Molyneaux, B.L., 2006. Topographical Scale as Ideological and Practical Affordance: The Case of Devils Tower. In G. Lock & B.L. Molyneaux, eds. *Confronting Scale in Archaeology. Issues of Theory and Practice*. New York (NY): Springer, 67–76.
- Montagu, A., 1986 [1971]. *Touching. The Human Significance of the Skin*. New York (NY): Harper.
- Moreland, J., 2001. *Archaeology of Text*. London: Gerald Duckworth.
- Morris, D., P. Collett, P. Marsh & M. O’Shaughnessy, 1981. *Gestures. Their Origins and Distribution. A New Look at the Human Animal*. London: Triad Granada.
- Moshenska, G., 2010. Gas masks, material culture, memory, and the senses. *Journal of the Royal Anthropological Institute (N.S.)*, 16(3): 609–628.
- Mosse, G.L., 1990. *Fallen Soldiers. Reshaping the Memory of the World Wars*. Oxford: Oxford University Press.
- Needham, J., ed., 1925. *The Science, Religion and Reality*. New York (NY): The MacMillan Company.
- Needham R., ed., 1973 [1909]. *Right and Left: Essays on Dual Symbolic Classification*. tr. R. Needham. Chicago (IL) & London: University of Chicago Press.
- Nettleingham, F.T., 1917. *Tommy’s Tunes. Collected and Arranged by F.T. Nettleingham, 2nd Lt., R.F.C.* London: Erskine Macdonald Ltd.
- Nora, P., 1995. Between Memory and History: *Les Lieux de Mémoire (1984)*. In J. Revel & L. Hunt, eds. *Histories. French Constructions of the Past (Postwar French Thought), Volume 1*. tr. A. Goldhammer & Others. New York (NY): New Press, 631–643.
- O’Brien, T., 1991. *The Things They Carried*. London: Flamingo.
- O’Neill, M., 2016. Kindle edn. *The Chinese Labour Corps: The Forgotten Chinese Labourers of the First World War*. London: Penguin.
- Ong, W.J., 1967. *The Presence of the Word*. New Haven (CT) & London: Yale University Press.
- 1982. *Orality and Literacy: the Technologizing of the World*. New York (NY): Methuen.
- Orpen, W., 1921. Kindle edn. *An Onlooker in France*. London: Williams & Norgate.
- Ortweiler, Frederick, J., 1917. Diary written during service as wireless operator with Royal Flying Corps on Western Front. April–May 1917. Private documents. RAF Museum Hendon, AC88/73.

- Paine, S., 2004. *Amulets. World of Secret Powers, Charms and Magic*. London: Thames & Hudson.
- Park, G.K., 1963. Divination and its social contexts, *Journal of the Royal Anthropological Institute* [online], 93(2): 195–209. Available from: <http://www.jstor.org/brs.idm.oclc.org/stable/pdf/2844242.pdf?refreqid=excelsior%3A04e369784d704198def5daa051fd0bf6> [Accessed 21 March 2018].
- Paterson, M., 2007. Kindle edn. *The Senses of Touch. Haptics, Affects and Technologies*. Oxford & New York (NY): Berg.
- Pels, P., 1998. The spirit of matter: on fetish, rarity, fact and fancy. In P. Spyer, ed. *Border Fetishisms. Material Objects in Unstable Places*. London: Routledge, 91–122.
- 2010. Magical things: on fetishes, commodities, and computers. In D. Hicks & M. Beaudry, eds. *The Oxford Handbook of Material Culture Studies*. Oxford: Oxford University Press, 613–633.
- Pennartz, P.J., 2006. Home. He Experience of Atmosphere. In I. Cieraad, ed. *At Home. An Anthropology of Domestic Space*. Syracuse (NY): Syracuse University Press, 95–106.
- Pfaffenberger, B., 1992. Social Anthropology of Technology. *Annual Review Social Anthropology*, 21: 491–516.
- Phillips, R.B. & C.B. Steiner, eds., 1999. *Unpacking Culture. Art and Commodity in Colonial and Postcolonial Worlds*. London: University of California Press.
- Pink, S., 2009. *Doing Sensory Ethnography*. London: Sage Publications.
- Pollak, S., 2007. The Rolling Pin. In S. Turkle, ed. *Evocative Objects. Things We Think With*. Cambridge (MA): MIT Press, 224–231.
- Poulbot, F., 1917. *Encores des Gosses et des Bonhommes: cent dessins et l'Histoire de Nénette et Rintintin*. Paris: A. Ternois.
- Pulteney, Sir William & B. Brice, 1925. *The Immortal Salient. An Historical Record and Complete Guide for Pilgrims to Ypres*. London: John Murray for the Ypres League.
- Radley, A., 1990. Artefacts, Memory and a Sense of the Past. In D. Middleton & D. Edwards, eds. *Collective Remembering*. London: Sage Publications Ltd, 46–59.
- Rainbird, P., 2007. *The Archaeology of Islands*. Cambridge: Cambridge University Press.
- Raleigh, Sir Walter, 1922. Kindle edn. *The War in the Air. Being the Story of the Part played in the Great War by the Royal Air Force. Vol. I*. Oxford: Clarendon Press/Oxford University Press.
- Ralph, W., 1999. *Barker VC. The Classic Story of a Legendary First World War Hero*. London: Grub Street.

- Rathje, W., 1981. A Manifest for Modern Material-Culture Studies. In R.A. Gould & M.B. Schiffer, eds. *Modern Material Culture Studies: The Archaeology of Us (Studies in Archaeology)*. New York (NY): Academic Press, 51–66.
- Renfrew, C., 2003. *Figuring It Out. What are we? Where do we come from? The parallel visions of artists and archaeologists*. London: Thames & Hudson.
- Revel, J. & L. Hunt, eds., 1995. *Histories. French Constructions of the Past (Postwar French Thought), Volume 1*. tr. A. Goldhammer & Others. New York (NY): New Press.
- Rewald, S., 1988. *Paul Klee*. New York (NY): Metropolitan Museum of Art.
- Rice, T., 2010. Learning to listen: auscultation and the transmission of auditory knowledge. *Journal of the Royal Anthropological Institute (N.S.)* [online], S41–S61. Available from: <https://doi.org/10.1111/j.1467-9655.2010.01609.x> [Accessed 1 May 2018].
- 2013. Hearing the hospital: sound, listening, knowledge and experience. Canon Pynon: Sean Kingston Press.
- Rickenbacker, E., 1919. *Fighting the Flying Circus*. New York: Frederick A. Stokes Company.
- Rivlin, R. & K. Gravelle, 1984. *Deciphering the Senses. The Expanding World of Human Perception*. New York (NY): Simon & Schuster.
- Roberts, D., 2003. Letter: Barker's fin. *Windsock International*, 19(1): 2.
- Rodaway, P., 1994. *Sensuous Geographies. Body, Sense and Place*. London & New York (NY): Routledge.
- Roper, M., 2009. *The Secret Battle. Emotional Survival in the Great War*. Manchester & New York (NY): Manchester University Press.
- Roud, S., 2006. *The Penguin Guide to the Superstitions of Britain and Ireland*. London: Penguin Books.
- Roure, L., 1917. Superstitions du front de guerre. *Edtudes*, 153: 710–711.
- Routh, Wing Commander E.J.D., n.d. Private documents. IWM Docs 20671.
- Ruan, X., 1996. Empowerment in the Practice of Making and Inhabiting. Dong Architecture in Cultural Reconstruction, *Journal of Material Culture* [online], 1(2): 211–237. Available from: <http://journals.sagepub.com/bris.idm.oclc.org/doi/pdf/10.1177/135918359600100204> [Accessed 4 February 2018].
- Sassoon, S., 1930. *Memoirs of an Infantry Officer*. London.

Saunders, N.J., 1999. Biographies of Brilliance: Pearls, Transformations of Matter and being c. AD 1492, *World Archaeology* [online], 31(2): 243–257. Available from: <http://www.jstor.org/stable/125060> [Accessed 14 March 2016].

- 2001. Apprehending memory: material culture and war 1919–1939. In J. Bourne, P. Little, I. Whitehead, eds. *The Great World War 1914–45, Volume 2, The peoples' experience*. London: HarperCollinsPublishers, 476–488.
- 2002. Bodies of Metal, Shells of Memory: 'Trench Art' and the Great War Recycled. In V. Buchli, ed. *The material culture reader*. Oxford & New York (NY): Berg, 181–206.
- 2002a. Memory and Conflict. In V. Buchli, ed. *The material culture reader*. Oxford & New York: Berg, 175–180.
- 2003. Crucifix, calvary and cross: materiality and spirituality in Great War landscapes. *World Archaeology*, 35(1): 7–21.
- 2003a. *Trench Art. Materialities and Memories of War*. Oxford & New York (NY): Berg.
- ed., 2004. *Matters of Conflict. Material Culture, Memory and the First World War*. London & New York (NY): Routledge.
- 2004a. Material Culture and Conflict. The Great War, 1914–2003. In N.J. Saunders, ed. *Matters of Conflict. Material Culture, Memory and the First World War*. London & New York (NY): Routledge, 5–25.
- 2007. *Killing Time. Archaeology and the First World War*. Stroud: Sutton Publishing Ltd.
- 2009. People in Objects: Individuality and the Quotidian in the Material Culture War. In C.L. White, ed. *The Materiality of Individuality. Archaeological Studies of Individual Lives*. London & New York (NY): Springer Dordrecht Heidelberg, 37–55.
- 2009a. Ulysses' Gaze: The Panoptic Premises in Aerial Photography and Great War Archaeology. In B. Stichelbaut, J. Bourgeois, N. Saunders, P. Chielens, eds. *Images of Conflict. Military Aerial Photography and Archaeology*. Newcastle Upon Tyne: Cambridge Scholars Publishing, 27–40.
- ed., 2012. *Beyond the Dead Horizon. Studies in Modern Conflict Archaeology*. Oxford: Oxbow Books.
- ed., 2012a. Foreword. In N.J. Saunders, ed. *Beyond the Dead Horizon. Studies in Modern Conflict Archaeology*. Oxford: Oxbow Books, viii–ix.
- ed., 2012b. Introduction. In N.J. Saunders, ed. *Beyond the Dead Horizon. Studies in Modern Conflict Archaeology*. Oxford: Oxbow Books, x–xiv.

- 2014. Bodies in Trees. A matter of being in Great War landscapes. In P. Cornish & N.J. Saunders, eds. *Bodies in Conflict. Corporeality, Materiality and Transformation*. London & New York (NY): Routledge, 22–38.
- 2016. ‘Pearl’s Treasure’: The Trench Art Collection of an Australian Sapper. In L. Slade, ed. *Sappers and Shrapnel: Contemporary Art and the Art of the Trenches*. Adelaide: Art Gallery of South Australia, 13–27.

Saunders, N.J. & P. Cornish, eds., 2009. *Contested Objects. Material Memories of the Great War*. London & New York (NY): Routledge.

- 2009a. Introduction. In N.J. Saunders & P. Cornish, eds. *Contested Objects. Material Memories of the Great War*. London & New York (NY): Routledge, 1–10.
- eds., 2017. *Modern Conflict and the Senses*. London & New York (NY): Routledge.

Scarry, E., 1985. *The Body in Pain. The Making and Unmaking of the World*. Oxford: Oxford University Press.

Seremetakis, C. N., ed., 1994. *The Senses Still: Perception and Memory as Material Culture in Modernity*. Chicago (IL) & London: University of Chicago Press.

- 1994a. The Memory of the Senses, Part I: Marks of the Transitory. In C.N. Seremetakis, ed. *The Senses Still: Perception and Memory as Material Culture in Modernity*. Chicago (IL) & London: University of Chicago Press, 1–18.

Seton Hutchison, G., 1936. *Pilgrimage*. London: Rich & Cowan Ltd.

Shanks, M., D. Platt & W.L. Rathje, 2004. The Perfume of Garbage: Modernity and the Archaeological. *Modernism/Modernity*, 11(1): 61–83.

Sharper Knowlson, T., 2008 [1890]. *The Origins of Popular Superstitions and Customs*. Forgotten Books.

Shores, C., N. Franks & R. Guest, 1990. *Above the Trenches. A Complete Record of the Fighter Aces and Units of the British Empire and Air Forces 1915–1920*. London: Grub Street.

Skeates, R., 2008. Making Sense of the Maltese Temple Period: An Archaeology of Sensory Experience and Perception. *Time and Mind*, 1(2): 207–238.

Skelton, M.L., 1977. Captain Vernon Castle Royal Flying Corps. *Cross & Cockade Great Britain Journal*, 8(2): 62–73.

- 1979. Lt. Roy Shillinglaw recalls 100 Squadron. *Cross & Cockade Great Britain Journal*, 10(3): 114–120.

Slade, L., ed., 2016. *Sappers and Shrapnel: Contemporary Art and the Art of the Trenches*. Adelaide: Art Gallery of South Australia.

- Sloterdijk, P., 2009 [2002]. *Terror from the Air*. Los Angeles (LA): Semiotext(e).
- Smart, C., 1916–1917. Diary. Private documents. RAF Museum Hendon, AC98/31/69.
- Smith, M., 2007. *Sensory History*. Oxford & New York (NY): Berg.
- Smith, W.D.A., 1982. *Under the Influence: A History of Nitrous Oxide and Oxygen Anaesthesia*. London & Basingstoke: Macmillan.
- Snape, M. F. & S.G. Parker, 2001. Keeping faith and coping: belief, popular religiosity and the British people. In J. Bourne, P. Liddle & I. Whitehead, eds. *The Great World War 1914–45, Volume 2 The peoples' experience*. London: HarperCollinsPublishers, 397–420.
- Spyer, P., ed., 1998. *Border Fetishisms. Material Objects in Unstable Places*. London: Routledge.
- Steiner, C.B., 1994. *African Art in Transit*. Cambridge: Cambridge University Press.
- Stewart, S., 1993. *On Longing. Narratives of the Miniature, the Gigantic, the Souvenir, the Collection*. Durham (NC) & London: Duke University Press.
- Stichelbaut, B., J. Bourgeois, N. Saunders, P. Chielens, eds., 2009. *Images of Conflict. Military Aerial Photography and Archaeology*. Newcastle Upon Tyne: Cambridge Scholars Publishing.
- Stoller, P., 1984. Sound in Songay Cultural Experience. *American Ethnologist*, 11(3): 559–570.
- 1989. *The Taste of Ethnographic Things. The Senses in Anthropology*. Philadelphia: University of Pennsylvania Press.
- Strange, L.A., 1955 [1933]. *Recollections of an Airman*. London: John Hamilton Ltd.
- Strathern, M., 1988. *The Gender of the Gift*. Berkeley (CA): University of California Press.
- Strenski, I., 1992 [1922]. *Malinowski and the Work of Myth*. Princeton (NJ): Princeton University Press.
- Struck, P.T., 2016. *Divination and Human nature: A Cognitive History in Classical Antiquity*. Princeton (NJ): Princetown University Press.
- Synnott, A., 1991. Puzzling over the Senses from Plato to Marx. In D. Howes, ed. *The Varieties of Sensory Experience*. Toronto: University of Toronto Press, 61–76.
- Tarlow, S., 1999. *Bereavement and Commemoration. An Archaeology of Mortality*. Oxford: Blackwell Publishers.
- 2000. Emotion in Archaeology, *Current Anthropology* [online], 41(5): 713–746. Available from: <http://www.jstor.org/stable/10.1086/317404> [Accessed 19 July 2017].

- Taylor, G., 1968. *Sopwith Scout 7309*. London: Cassell & Co Ltd.
- Thom, T., 1987. *The Air Pilot's Manual. Volume 1: Flying Training*. Shrewsbury: AirLife Publishing Ltd.
- Thomas, J., 1996. *Time Culture and Identity. An Interpretive Archaeology*. London & New York (NY): Routledge.
- Thrift, N., 2010. Afterword: Fings ain't wot they used t'be: thinking through material thinking as placing and arrangement. In D. Hicks & M.C. Beaudry, eds. *The Oxford Handbook of Material Culture Studies*. Oxford: Oxford University Press, 634–645.
- Tilley, C., 1994. *A Phenomenology of Landscape*. Oxford & New York (NY): Berg.
- 2004. *The Materiality of Stone. Explorations in Landscape Phenomenology*. Oxford & New York (NY): Berg.
 - 2006. Objectification. In C. Tilley, W. Keane, S. Küchler, M. Rowlands & P. Spyer, eds. *Handbook of Material Culture*. London: SAGE Publications Ltd, 60–73.
 - 2007. Materiality in materials. *Archaeological Dialogues* [online], 14(1): 16–20. Available from: <https://www.cambridge.org/core/terms>. <https://doi.org/10.1017/S1380203807002139> [Accessed 29 August 2018].
- Tilley, C., W. Keane, S. Küchler, M. Rowlands & P. Spyer, eds., 2006. *Handbook of Material Culture*. London: SAGE Publications Ltd.
- Tuan, Yi-fu, 1974. *Topophilia*. Eaglewood Cliffs (NJ): Prentice Hall.
- 1979. *Landscapes of Fear*. New York (NY): Pantheon Books.
- Turkle, S., ed., 2007. *Evocative Objects. Things We Think With*. Cambridge (MA): MIT Press.
- Turner, E.S., 1980. *Dear Old Blighty*. London: Michael Joseph Ltd.
- Turner, V., 1988. *The Anthropology of Performance*. New York (NY): PAJ Publications.
- 1995. *The Ritual Process. Structure and Anti-Structure*. New York (NY): Aldine de Gruyter.
- Van de Noort, R., 2004. An Ancient Seascape: the Social Context of Seafaring in the Early Bronze Age, *World Archaeology* [online], 35(3): 404–415. Available from: <http://www.jstor.org/stable/4128317> [Accessed 26 October 2017].
- Van Gennep, A., 1960 [1909]. *Rites de Passage*. London: Routledge.
- Vann, R., 1978. Nine months with 5 Squadron RFC. The recollections of Captain Herman Lloyd Tracy as told to Raymond Vann. *Cross & Cockade Great Britain Journal*, 9(1): 23–24.

- Velasco, G., 2010. *Fighting Colours: The Creation of Military Aircraft Nose Art*. Tennessee: Turner Publishing Company.
- Villiers, E., 1929. *The Mascot Book*. London: T. Werner Laurie Ltd.
- Vinge, L., 1975. *The Five Senses: Studies in a Literary Tradition*. Lund: The Royal Society of Letters.
- Waite, M., ed., 2012 [1979]. *Oxford English Dictionary (Paperback)*. Oxford: Oxford University Press.
- Wall, G., 1919. *Letters of an Airman*. Melbourne: Australasian Author's Agency.
- Walton, L., 2010. Snapshots from France, 1917–1923, *Channel Islands Great War Study Group Journal* [online], 30 February. Available from: <http://www.greatwarci.net/journals/30.pdf> [Accessed 10 March 2017].
- Ward-Jackson, C.H., ed., 1945. *Airman's Song Book*. London: Sylvan Press.
- Wardrop, W.E.D., 1973. Recollections of a period as a Sergeant Observer flying Handley Pages, Western Front August 1917–April 1918. Interview with W. Wardrop (recorded and interviewed by M.H. Brice), 28 March 1973 (IWM Cat. No. 29). London: IWM Production Co. (<https://www.iwm.org.uk/collections/item/object/80000029>) [Accessed 16 March 2017].
- Watson, A., 2006. Self-deception and survival: Mental Coping Strategies on the Western Front, 1914–18, *Journal of Contemporary History* [online], 41(2): 247–268. Available from: <http://www.jstor.org/stable/30036385> [Accessed 14 May 2013].
- Waugh, J., 2015. Kindle edn. *Trench Art – the stories behind the talismans*. Freemantle, Australia: Vivid Publishing.
- Wenzel, M. & J. Cornish, 1980. *Auntie Mabel's War. An account of her part in the hostilities of 1914–1918*. London: Allen Lane.
- White, C.L., ed., 2009. *The Materiality of Individuality. Archaeological Studies of Individual Lives*. London & New York (NY): Springer Dordrecht Heidelberg.
- White Springs, E., ed., 1966 [1927]. *War Birds. The Diary of an Unknown Aviator*. London: Temple Press Books.
- Williams, H.B., ed., 1919. *The Golden Horseshoe. Written and Illustrated by Men of the 37th Division B.E.F.* London, New York, Toronto & Melbourne: Cassell & Company Ltd.
- Williamson, H., 2009 [1929]. Kindle edn. *The Wet Flanders Plain*. London: Faber & Faber.
- Winter, J., 2006. *Remembering War. The Great War between Memory and History in the Twentieth Century*. New Haven (CT) & London: Yale University Press.

- Winterton, M., 2012. Absent Parachute. *World War I Centenary: Continuations and Beginnings*, [online]. Available from: <http://ww1centenary.oucs.ox.ac.uk/machineaesthetic/absent-parachute/> [Accessed 14 March 2016].
- 2012a. 18-Pounder Artillery Shells: The Great War Recycled and Re-Circulated. *World War I Centenary: Continuations and Beginnings* [online]. Available from: <http://ww1centenary.oucs.ox.ac.uk/machineaesthetic/18-pounder-artillery-shells-the-great-war-recycled-and-re-circulated-2/> [Accessed 15 May 2016].
 - 2012b. Signs, Signals and Senses: the soldier body in the trenches. In N.J. Saunders, ed. *Beyond the Dead Horizon. Studies in Modern Conflict Archaeology*. Oxford: Oxbow Books, 229–241.
 - 2017. The sensory signature of *being* an airman in a Second World War Lancaster bomber aeroplane. In N. J. Saunders & P. Cornish, eds. *Modern Conflict and the Senses*. London & New York (NY): Routledge, 237–255.
- Witmore, C.L., 2006. Vision, Media, Noise and the Percolation of Time. Symmetrical Approaches to the Mediation of the Material World, *Journal of Material Culture* [online], 11(3): 267–292. Available from: <http://mcu.sagepub.com/content/11/3/267.refs.html> [Accessed 15 November 2011].
- Woodcock, T. & J.M. Robinson, 2001 [1988]. *The Oxford Guide to Heraldry*. New York (NY): Oxford University Press.
- Wordsworth, W., 1984 [1807]. *Wordsworth's Poems in Two Volumes (1807): A Facsimile*. London: British Library.
- Wortley, Rothesay S., 1982 [1928]. *Letters from a Flying Officer*. Gloucester: Alan Sutton Publishing Ltd.
- Wright, A.R. & E. Lovett, 1908. Specimens of Modern Mascots and Ancient Amulets of the British Isles, *Folklore* [online], 19(3): 288–303. Available from: <http://www.jstor.org/stable/1254514> [Accessed 14 May 2013].
- Wyschogrod, E., 1981. Empathy and Sympathy as Tactile Encounter. *Journal of Medicine and Philosophy*, 6(1): 25–43.
- Yuille, Archibald, B., 1973. Experiences of a Royal Flying Corps pilot 1917–1918. Interview with A. Yuille (recorded and interviews by D. Lance), 4 June 1973 (IWM Cat. No. 4267). London: IWM Production Co. (<https://www.iwm.org.uk/collections/item/object/80000319>) [Accessed 16 March 2017].
- Young, D., 2006. The Colours of Things. In C. Tilley, W. Keane, S. Küchler, M. Rowlands & P. Spyer, eds. *Handbook of Material Culture*. London: SAGE Publications Ltd, 173–185.

WEBSITES

A Church near you

<https://www.achurchnearyou.com/twineham-st-peter/> [Accessed 13 May 2017].

'AWM' – Australian War Memorial Museum: Hay

<https://www.awm.gov.au/collection/C289714> [Accessed 10 May 2017].

'AWM' – Australian War Memorial Museum: Marston

<http://www.awm.gov.au/collection/REL33984/> [Accessed 16 July 2013].

Aviation archive

u.d. Women Doping Wings.

<http://www.aviationarchive.org.uk/Gpages/html/G2083.html> [Accessed 29 May 2017].

BBC

<http://www.bbc.co.uk/ahistoryoftheworld/objects/r9mO6jrITKeljSM-Xt4kBw> [Accessed 10 October 2017].

Bible Gateway

Psalm 91. <https://www.biblegateway.com/passage/?search=Psalm+91&version=KJV> [Accessed 13 January 2017].

Crutchley, G., u.d. 'My grandfather'. <http://www.flyingclothing.co.uk/pg005.html> [Accessed 12 December 2016].

CWGC (Commonwealth War Graves Commission): About Us

<https://www.cwgc.org/about-us> [Accessed 19 February 2018].

CWGC (Commonwealth War Graves Commission): Aeroplane Cemetery

<https://www.cwgc.org/find-a-cemetery/cemetery/51900/AEROPLANE%20CEMETERY> [Accessed 10 April 2018].

CWGC (Commonwealth War Graves Commission): Blog

<http://blog.cwgc.org/arras-flying-services-memorial> [Accessed 17/02/2018].

CWGC (Commonwealth War Graves Commission): Castle

<https://www.cwgc.org/learn/news-and-events/news/2018/02/15/15/30/remembering-vernon-castle> [Accessed 25 March 2018].

CWGC (Commonwealth War Graves Commission): Corbett Wilson and Woodiwiss

<https://www.cwgc.org/find-war-dead/casualty/585327/corbett-wilson,-denys/#&gid=null&pid=1> [Accessed 14 April 2018].

CWGC (Commonwealth War Graves Commission): Menin Gate

<https://www.cwgc.org/find/find-cemeteries-and-memorials/91800/ypres-memorial> [Accessed 14 April 2018].

Encyclopaedia Britannica

<https://Britannica.com/topic/True-Cross> [Accessed 30 December 2016].

Grace's Guide to British Industrial History. '1915 Aviator's Certificates UK'.
http://www.gracesguide.co.uk/1915_Aviators_Certificates_-_UK [Accessed 30 November 2016].

IPwish

iPwish trademark details (undated). 'J.M.F. Co'.

<http://www.ipwish.com/trademarks/detail/71098538> [Accessed 11 July 2013].

Irish Linen Centre & Lisburn Museum Aerolinen – The War was Won on Ulster Wings.

<http://www.lisburnmuseum.com/2014/08/the-war-was-won-on-ulster-linen-wings-how-aerolinen-and-andrews-mill-in-comber-aided-the-war-effort/> [Accessed 29 May 2017].

Metric conversions

<http://www.metric-conversions.org/length/feet-to-meters.htm> [Accessed 28 May 2018].

National Museum of Wales

[https://museum.wales/collections/online/?field0=string&value0=edward lovet collection mascots&field1=with_images&value1=on&page=1](https://museum.wales/collections/online/?field0=string&value0=edward+lovet+collection+mascots&field1=with_images&value1=on&page=1) [Accessed 17 March 2018].

Occult Review

http://www.iapsop.com/archive/materials/occult_review/ [Accessed 16 May 2016].

Old Superstitions

<http://www.oldsuperstitions.com> [Accessed 16 December 2016].

Oxford Dictionary of National Biography

<http://www.oxforddnb.com/view/article/68195?docPos=3> [Accessed 14 January 2017].

RAF (Royal Air Force)

<https://www.raf.mod.uk/history/theroyalairforcemotto.cfm> [Accessed 26 February 2018].

Returned, The,

<http://thereturned.co.uk/the-grave-markers/> [Accessed 20/02/2017].

Salvation Army u.d. History of the Salvation Army. *War*.

<https://Salvationarmy.org.uk/war-0> [Accessed 10 March 2017].

Sandy's Vintage Charms

<https://www.sandysvintagecharms.com/pages/czech-glass-charms> [Accessed 16 February 2017].

Shuttleworth Museum

<http://www.shuttleworth.org> [Accessed 21 February 2018].

Tuck DB Postcards [undated] *History of R. Tuck and Sons Ltd*. <http://tuckdb.org/history> [Accessed 11 July 2010].

University of Sydney, Roll of Service, p215

<http://beyond1914.sydney.edu.au/profile/3126/john-hay>
[Accessed 14 September 2017].

Victoria and Albert Museum

<http://www.vam.ac.uk/moc/collections/kewpie-doll/> [Accessed 10 April 2016].

War History Online

<https://www.warhistoryonline.com/war-articles/relatives-red-baron-albert-ball-meet-royal-air-force-museum.html> [Accessed 16 February 2017].

GLOSSARY

This Glossary relates to terms relevant to First World War aviation.

Albatros: Fighter biplane used by the Imperial German Air Service. There were many variants, e.g. DII, DIII, D5, D5a. The DIII model was particularly favoured by German aircrew for its rate of climb and manoeuvrability even though it was heavy on the controls.

Aldis collimation sight: A sealed metal tube, 32 inches long, two inches in diameter, mounted between the Sopwith Camel's two Vickers guns. The internal lenses of these sights secured an image in the ratio of 1:1, thus images were neither reduced nor magnified, i.e. it is not a telescopic sight. Two concentric rings engraved on the glass were used to give an estimate of the distance to the target aimed at with the inner 100-yard ring being a guide as to when to open fire.

Archie: The name given by the British to German anti-aircraft fire: 'Our machines whilst working over the line were frequently shelled by anti-aircraft guns, and it was just about this time that they were nicknamed "Archibalds", probably because they always missed our machines, and the pilots used to sing the refrain of "Archibald! Certainly not!!"' (McCudden 1987 [1918]: 46).

Avro 504: A training aeroplane made by Avro, a British aeroplane manufacturer. Used in the First World War.

BE: Aeroplane type, e.g. the BE1, BE2, BE2a, BE2b, BE2c. All BE types were biplanes. Made by the Royal Aircraft Factory. Impossible to fire forward in this aeroplane due to the propeller being in the way.

Biplane: Early aircraft type with two pairs of fixed wings, one above the other.

Bleriot: French aircraft designed by Louis Blériot and first used by him to make the first flight over the English Channel in 1909. A monoplane, it was produced in both single and two-seat versions and was purchased by many countries and used in the First World War.

Boche: Nickname for a German.

Brevets: Flying wings that signify that the pilot has learned to fly.

Bus: Aeroplane.

Castor oil: Aeroplanes with rotary engines used castor oil as a lubricant, 'It was fed into the crank case and flung out through the cylinder heads as the engine ran. All those engines used a great deal of oil. As it was flung out, it burned. And the bitter nutty tang of burnt castor oil is one of the most nostalgic memories of any FWW pilot' (Lewis 1964: 71–72).

Chocks: Wedges or blocks placed against the wheel of an aeroplane to prevent it from moving whilst parked.

de Havilland DH5: Single-seater fighter aircraft constructed as a tractor biplane. The lower wing as positioned forward of the upper wing. It was very unpopular and inferior to other fighter aircraft in production. It was quickly replaced by the SE5a.

Dog-fight: Shooting it out in the air.

Drachen observation balloon: A German observation balloon used to spy on Allied soldiers. They hung swinging from the sky whilst attached to a cable which was, in turn, attached to the ground, usually via a motor truck. An observer in one of these balloons can see for at least a 10-mile radius. Though not easily manoeuvrable, and providing a very large target, many pilots experienced frustration as they found it very difficult to hit them with gunfire (Rickenbacker 1919: 168–178).

FE 2B: a 'pusher' type of biplane in that the engine was situated behind the wings and the propeller behind that. This arrangement provided a beneficial forward arc of observation.

FE 8: Pusher biplane, i.e. the engine is at the rear of the aeroplane. Nicknamed a 'Harry Tate'. The aeroplane has a forward gondola in which the pilot sat.

Flying ace: A pilot who is credited with a number of victories shooting own enemy aircraft during aerial combat (Shores et al 1990: 6–10). It is not clear how many victories a pilot had to claim to be labelled a flying ace, but as an indicator, Shores et al (1990:30) only include pilots who achieved five or more victories in their book about flying aces.

Fokker: German single-seat fighter biplane.

Fuselage: Body of an aeroplane.

Gotha: German heavy-bomber biplane. Used by the Royal Flying Corps and Royal Naval Air Service, it came into service in late 1916. It was used as a night bomber to bomb strategic German targets. It was readily recognisable for it had a huge wingspan of some 114 feet (34.75 metres).

Go west: Be killed.

Haptic: Relating to the sense of touch in all its forms.

Heraldry: The 'systematic hereditary use of an arrangement of charges or devices on a shield' and came into being in the mid-12th century over a wide area of Europe. Such depiction of arms on a shield imparted a message from individual knights and was held to be a form of vanity and display rather than a practical military device. It was a military status symbol popularised by the tournaments that knights took part in' (Woodcock and Robinson 2001 [1988]: 1–3)

Horizon: A visual reference point where the line at which the earth's surface and the sky appear to meet. If a pilot loses sight of the horizon, for example in poor weather conditions with low or no visibility, he would be unable to determine his body position in space and would therefore experience spatial disorientation.

Joystick: The joystick, also called the control column, can be moved in four directions, left to right and fore and aft. A sideways movement operates the ailerons to control the angle of bank in a turn (the aileron looks like a flap on the lower wing). The fore and aft movement of the stick moves the elevators on either side of the aircraft and are hinged to the rear of the tail-plane, and cause the nose of the machine to go up or down (Thom 1987: 28–29).

Kinaesthetic: Sense of bodily movement.

Lewis gun: Portable automatic light machine gun that used .303 British ammunition.

Machine: Aeroplane.

Maurice Farman biplane: Shorthorn and Longhorn. Used as a reconnaissance and light bomber aircraft during the early part of the First World War. It was later used as a training aeroplane.

Morane Saulnier BB biplane: Reconnaissance two-seater aircraft produced in France in 1915 for the Royal Flying Corps.

Nénette and Rintintin: Lucky charms. Wool-doll mascots, named Nénette and Rintintin and occasionally accompanied by their baby, were very popular in Paris.

Nieuport Scout: French-built single-seater fighter biplane, first built in 1916, deemed to have a good rate of climb.

Pusher aeroplane: The engine and propeller is mounted at the back of this type of aeroplane.

RE8: British two-seat reconnaissance and bomber biplane.

Rudder: Controls the direction of the aeroplane and so helps turn the aircraft. To control 'yaw' means to change the horizontal direction in which the aeroplane nose is pointing.

Rumpler: German reconnaissance biplane.

Salient: As in, for example, 'Ypres Salient' – in military terms is a battlefield feature that projects into an opponent's territory. Since the salient is surrounded on three sides, the troops operating inside the salient are extremely vulnerable.

Salvo: 'Shooting of a number of guns at the same time in a battle' (Waite 2012 [1979]: 640).

SE5: British biplane fighter aircraft.

Side-slipping: The act of banking in one direction using the ailerons and the rudder in opposite direction simultaneously. This causes the aeroplane to slip sideways left or right of the main longitudinal direction of travel and would cause an apparent wind on the face opposite to the direction of slip (Thom 1987: 132–134).

Sopwith Camel: Single seat biplane fighter aircraft, introduced to the Western Front in 1917.

Sopwith Strutter: Used by the Royal Flying Corps from December 1915, this aeroplane was a single or two-seater fighter biplane. It was described as a 'strutter' because of the arrangement of its central mainplane bracing struts.

Spandau: The Spandau gun is a machine gun used by the German air service. It was designed to enable the pilot to fly the aeroplane with one hand whilst operating the gun with the other. Typically, German pilots flew with two Spandau guns on each aeroplane.

Strafe: The military practice of attacking ground targets with a machine gun from low-flying aircraft.

Tracer bullets: Such bullets allowed pilots to visually track the path of their bullets during night flight. The bullet released small amounts of flammable material that left a phosphorescent trail in its wake. But these illuminating bullets made it easier for enemy pilots and ground troops to find the position of the aeroplane. Tracer bullets are often loaded into machine gun belts as every fifth round, hence the term 'one in five'.

Tractor: An aeroplane with front-mounted engine and propeller.

Verey lights: Type of flare gun fired at night.

Vickers gun: Heavy machine gun, using .303 British ammunition. Had the advantage of being able to fire through aircraft propellers because it was easier to synchronise due to its closed-bolt firing cycle.

FIELD NOTE BOOK

The following is taken from my field diary and gives a brief outline of what it felt to fly in a Tiger Moth bi-plane at Duxford Airfield in June 2011. I experienced instruction on how to fly the aeroplane through 'active engagement' (Ingold 2000: 354) in terms of following the pilot's verbal tuition, i.e. doing exactly what he said as he talked me through what to do. I could not see the pilot so he could not show me visually but he had my aural attention.

Field Note: June 2011, Duxford Airfield

Flying open-air planes is dependent on the weather and my first flight was cancelled due to inclement weather just as it would have been during the FWW when planes did not go up on 'dud days' and aviators were left to their own devices, sometimes day after day.

I was dressed for the occasion wearing a flying jacket, hat, eye goggles, headphone and microphone so that the pilot could keep in touch with me (microphones did not exist during the FWW but are used today as a civil aviation requirement and to allow the pilot to communicate with Air Traffic Control). During the FWW, communication between pilot and observer was via hand signals until later on in the war when a 'speaking tube' was adopted for inter-plane communication. By late 1917, aviators communicated by wireless with artillery battalions on the ground. The eye goggles did not fit properly and they were an irritation throughout the flight.

Getting into the plane was an art form in itself and required good climbing skills and vestibular capability for there is a particular way to get into the plane and this has to be performed the right way to avoid damage to the plane and to avoid entangling one's legs and feet. There is a rhythm to it, like remembering dance steps. You have to stand on the black strip on the right wing of the plane. I wanted to start with my right leg, but was advised to start with my left leg. Lift the left foot high over the side of the plane placing it down onto the leather seat (I was immediately worried about putting my dirty shoe on the seat). Then, bring the right foot high over the side of the plane and down on to the leather seat. I had to physically lift my foot with my hand to push it higher in order to get it over the side of the plane. Now, standing on the seat, the body is crouched, and, in this

position, lean back hold either side of the plane to promote body stability, and slide into the seat so the feet are on the floor of the plane. I buckled myself into the lap-strap which would presumably, indeed, hopefully, keep me secure in the plane. The engine was already running when I climbed into plane.

My body immediately felt hemmed in as it practically filled the cockpit and I could feel the constraints and confines of the heavy leather and fur flying jacket pressing on my body and restricting my upper body movement, and, every time I moved I re-felt the touch of weight of the jacket. The touch of the fur collar on my neck made it itch. Next time, I will wear a scarf underneath the fur collar.

I sat in the front of the plane, with the pilot behind me so I could not see him but was aware of his presence behind me. The cockpit is extremely small, and my body took over the space, my shoulders almost touching the sides. Being in the plane is like wearing a second skin, another layer of clothes perhaps. My 360° vision was restricted by the goggles and, unaccustomed as I am to wearing them, I could feel their annoyingly unwelcome presence pressing in to my face. The middle of the top wing was just above my head and I could not resist the impulse to reach out and touch it. I did not dare touch the landing or flying wires in case I damaged them and caused the plane to crash.

The instrument panel was in front of me but seemed very close to my face, its proximity invading my personal space. I could not see out to the front of the plane because the wings blocked my vision. I could see to the right and left though the wings restricted my vision. I placed my feet on the pedals, left then right, the pedals now the floor of my world.

Before setting off, the pilot said 'While I'm chatting to Air Traffic, the intercom will be off. If it is off and you want to communicate with me, put your hand up'. Hand signals were used by aviators in the FWW as a means of communication whilst in the air.

The plane set off, moving along the grass, the jolting of the plane reverberated through my body, I could see the ground rushing beneath me until finally we burst into the atmosphere and the landscape seemed to pass more slowly as we flew over it and I had a bird's eye view of different coloured fields, roads and buildings. I could see different colours and shades of the fields below; the roads look like they would appear on a map –

in plan rather than in profile. The traffic below appears to be moving slowly on the roads; perception of speed seems to change when looking down from above. I feel like we are flying in slow motion.

I was aware of a very strange sensation of wind blowing up my nose which startled me and I am sure I could feel the cold wind in my mouth and taste it, the wind invading and, to some extent, alarming, my tactile awareness. The sound of the engine felt comforting. Even wearing headphones, I had to concentrate hard to hear the pilot speak over the radio as the engine was noisy.

Pilot (Steve): I would like you to put your feet on the pedals and I would like you to put your fingers around the control column.

Mel: Yes.

Steve: And I want you to look ahead now, don't look at your hands, don't look at the instruments, look dead ahead. Be nice and gentle because I can't move the controls because you are too tight. Nice and relaxed.

Mel: Yes.

Steve: Right, if you look ahead, if I ease the stick back, see how the nose goes up? If I move the column forward, then see how the nose goes down.

Mel: Yes.

Steve: Then what I do is to try to keep it on the horizon. OK? And I do that by fore and aft movement. If I want to turn it, have a good look round and move the column to the right. Can you see how the aircraft then starts to roll to the right?

Mel: Yes.

Steve: Then, as you see, we come round, so we can have a look for that horrible weather and then we'll roll the wings level by moving the stick to the left. OK?

Mel: Yes.

Steve: Right, when you are ready, Melanie, you say 'Steve, I have control'.

Mel: Steve, I have control.

Steve: Melanie, you have control. So, I would like you to ease the column forward and see what happens. See how sensitive it is? Now, ease it back, Melanie, nice and gently. Don't be too much of a hooligan, thank you.

So, now what we are going to do, we are going to do a little turn to the left, Melanie. So, I would like you to ease the column to the left.

Now, ease it back because we don't want to descend, we are getting too low, we are diving to the ground. That's it, ease it back. Hold it there. Hold it a little bit above the horizon. No too much, because it will make the aircraft stall.

Now, ease the column forward before it falls out the sky. There you go. Just hold it there. Hold it there. Don't let the nose go any lower. Ease the column back. Good! Just hold it there; that's nice.

Now we are going to do a nice [doesn't finish sentence]. That's it ease it forwards, keep it at the same pitch on the horizon about there, alright? You have control.

Mel: I have control.

Steve: Right, now Melanie, we'll do a little turn to the right. Careful turn to the right. Think we'll head towards that big massive cloud. Column forwards a bit. To the right a bit. That's it. Right, column back a bit. We can't keep the column in the same place. We need to keep adjusting it just to keep the nose in the right place, OK? Column forward, because we are going far too high at nose attitude. That's it. Just hold it there. Right, we are going down so we are going to ease the column back. Try to keep the nose on the same place on the horizon. Lovely. Now, just ease the column forward. That's nice. Only a little bit because otherwise we will be diving into the ground. It's only a tiny, tiny movement, Melanie. Lovely.

Right, we'll do a nice gentle turn to the right. So, ease the column gently forwards a little bit, and to the right. That's nice. That's lovely. Yes, keep turning to the right. Column to the right and ease the column back because we are now descending into the ground. Try and keep the nose to the horizon, all the time.

Right, see how the nose is too high above the horizon? You've got to lower the nose. OK, so just ease the column to the right, because we need to go right to miss the rain. Ease it to the right. A bit more. A bit more. A bit more. Right, column to the left there, that's good. Right, I have control for a second, OK?

Mel: Steve, you have control.

The pilot asked me if I would like to fly the plane. I agreed. After some verbal tuition over the microphone, he said 'Melanie, you have control'. I answered 'Steve, I have control', in keeping with strict flying protocol. I completed some manoeuvres, under the pilot's verbal guidance. There is one stick between your legs, simply move the stick left to go left and vice versa. My legs were placed either side of the stick – the legs must be kept well apart to avoid touching the stick. You can move the stick forward, backwards, left,

right – moving the plane accordingly. As I pushed the stick forward, the movement of my body made me aware of the heavy flying jacket I was wearing which means I must have forgotten I was wearing it until I moved. Does the body, therefore, adapt to the sensation of the pressure of heavy and restricting clothes against the body? I did not wear gloves and the metal stick felt cold to the touch. My nerves felt taut (like the wires!). I made a mental note to wear gloves on my next flight.

We came down to land fairly fast and the sudden change from low to high pressure blocked my ears for a while, making me temporarily deaf and somewhat disoriented.



Author boarding biplane left-foot first.



Author in control of the biplane. The pilot is seated in the rear of the aircraft.



Coming into land.

TRANSCRIPT OF COMMUNICATION BETWEEN PILOT AND PASSENGER DURING FLIGHT IN TIGERMOTH BIPLANE

Pilot: Steve

Passenger: Melanie Winterton (Mel)

Date: July 2012

Time: Duration of flight: 20 minutes.

Flying height: 1,000 feet.

Steve: While I'm chatting to Air Traffic, the intercom will be off. If it is off and you want to communicate with me, put your hand up. Are you ready?

Mel: Yes.

Steve: Then here, we go. Look at that cloud to the right. It's going to rain there.

Mel: Oh, yes.

Air Traffic: Look out for this cell that's approaching us from the North, there will be thunder and lightning in it.

Steve: Yes, we were just discussing that. Melanie and I were looking at it. It looks quite nice and vicious.

Well, Melanie, here we are. What do you think?

Mel: This is brilliant!

Steve: This is a bit like a vintage motor bike with wings.

So, make sure your mike is right against your lips; it's got to be touching.

If you want to have a fly, I would like you to put your feet on the pedals and I would like you to put your fingers around the control column.

Mel: Yes.

Steve: And I want you to look ahead now, don't look at your hands, don't look at the instruments, look dead ahead. Be nice and gentle because I can't move the controls because you are too tight. Nice and relaxed.

Mel: Yes.

Steve: Right, if you look ahead, if I ease the stick back, see how the nose goes up? If I move the column forward, then see how the nose goes down.

Mel: Yes.

Steve: Then what I do is to try to keep it on the horizon. OK? And I do that by fore and aft movement. If I want to turn it, have a good look round and move the column to the right. Can you see how the aircraft then starts to roll to the right?

Mel: Yes.

Steve: Then, as you see, we come round, so we can have a look for that horrible weather and then we'll roll the wings level by moving the stick to the left. OK?

Mel: Yes.

Steve: Right, when you are ready, Melanie, you say 'Steve, I have control'.

Mel: Steve, I have control.

Steve: Melanie, you have control. So, I would like you to ease the column forward and see what happens. See how sensitive it is? Now, ease it back, Melanie, nice and gently. Don't be too much of a hooligan, thank you. So, now what we are going to do, we are going to do a little turn to the left, Melanie. So, I would like you to ease the column to the left. Now, ease it back because we don't want to descend, we are getting too low, we are diving to the ground. That's it, ease it back. Hold it there. Hold it a little bit above the horizon. No too much, because it will make the aircraft stall. Now, ease the column forward before it falls out the sky. There you go. Just hold it there. Hold it there. Don't let the nose go any lower. Ease the column back. Good! Just hold it there; that's nice. Now we are going to do a nice [doesn't finish sentence]. That's it ease it forwards, keep it at the same pitch on the horizon about there, alright? You have control.

Mel: I have control.

Steve: Right, now Melanie, we'll do a little turn to the right. Careful turn to the right. Think we'll head towards that big massive cloud. Column forward a bit. To the right a bit. That's it. Right, column back a bit. We can't keep the column in the same place. We need to keep adjusting it just to keep the nose in the right place, OK? Column forward, because we are going far too high at nose attitude. That's it. Just hold it there. Right, we are going down so we are going to ease the column back. Try to keep the nose on the

same place on the horizon. Lovely. Now, just ease the column forward. That's nice. Only a little bit because otherwise we will be diving into the ground. It's only a tiny, tiny movement, Melanie. Lovely.

Right, we'll do a nice gentle turn to the right. So, ease the column gently forwards a little bit, and to the right. That's nice. That's lovely. Yes, keep turning to the right. Column to the right and ease the column back because we are now descending into the ground. Try and keep the nose to the horizon, all the time.

Right, see how the nose is too high above the horizon? You've got to lower the nose. OK, so just ease the column to the right, because we need to go right to miss the rain. Ease it to the right. A bit more. A bit more. A bit more. Right, column to the left there, that's good. Right, I have control for a second, OK?

Mel: Steve, you have control.

Steve: What do you think of this then?

Mel: That's brilliant! Amazing!

Steve: Right, so what we'll do is have a good look round, and we'll just ease [didn't complete sentence].

There's a little bit of angry weather, and you can feel how the wind is buffeting us?

Mel: Yes.

Steve: That's because of that front, that little cell.

Right, now if you look to your left, you can see a little airfield just on our left.

Mel: OK, yes.

Steve: Then on the nose to the left you can see Duxford.

Mel: Oh, I see, yes.

Steve: Classic Wings 7 re-joining from the West.

(to Air Traffic)

Air Traffic: OK, 7 [inaudible]

Steve: OK [inaudible] 1,000 feet [inaudible].

Classic 7. Just coming downwind.

Air Traffic: Roger 7. Report final [inaudible].

Steve: Classic 7. We'll route round the village.

Air Traffic: Roger.

Steve: Classic 7. Final [inaudible].

Air Traffic: Landing instructions, seven two westerly, one five knots.

Steve: Classic 7. Roger out.
And here we are back home again.

Mel: That was awesome; thank you.

Steve: I'm glad you enjoyed it. And we'll jump out now, eh?