# HISTORY GROUP NEWSLETTER

RMetS Royal Meteorological Society

News, views and a miscellany published by the Royal Meteorological Society's Special Interest Group for the History of Meteorology and Physical Oceanography

## Issue No. 1, 2019

# March 2019

# News Julian Mayes, Secretary / Newsletter editor

Welcome to the first issue of the Newsletter for 2019. This comes fairly soon after the last newsletter but the material was ready. When I received Peter Rowntree's recollections of the severe weather of February 1947 I imagined that this would be topical for a late-winter issue. Little did I anticipate the record-breaking warmth of the last week of February this year. Brian Booth's *Faces from the Past* series in honour of Met Office personnel who gave their lives in service continues with an article on the short life of Lili Bankier.

My thanks to all who have contributed to this issue. I would like to extend an invitation to all members to contribute to future issues.

**Membership** – We welcome new member Alex Hall (President, ICHM). We are sorry to report the death of long-standing History Group member Hugh Thomas. Hugh had maintained meteorological records at Hurstpierpoint, Sussex from the mid-1950s until early this year and many of his observations were published in the COL bulletin.

## Julian Mayes

### **The Weather Rescue Project**

Are you interested in helping to digitise the weather records from the 1860s and 1870s? Prof Ed Hawkins of Reading University has started this project as a citizen science venture to digitise *Daily Weather Reports* from these decades and hence make them available for analysis. This project has been chosen as the flagship citizen science project of the British Science Association. Details of the project and how to join in can be found at www.weatherrescue.org. Perception of weather events over time

An unusual research paper by Frances Moore and colleagues has recently been published in *The Proceedings of the Nat Academy of Sciences* that highlights the public's short term memory of weather. This may not seem very surprising but at a time of rising temperatures it clearly has relevance to the public's accurate and understanding of recent climatic change.

The authors examined over 2 billion social media posts. Weather memory was seen to extend back to between 2 and 8 years. A summary of the paper is available here (payment required for the full paper) <u>https://www.pnas.org/content/early/2019/02/15/181</u> <u>6541116</u>

Met Office historical observation data now available online free of charge

The UK Centre for Environmental Data Analysis now hosts the Met Office's MIDAS database of historical daily and hourly observations.

#### http://www.ceda.ac.uk/blog/uk-weather-stationrecords-now-freely-available-to-all-midas-open/

This opens up a vast array of historical observations to individual researchers and interested individuals. The datasets include hourly and daily rainfall, hourly and daily weather (such as the 'days with' observations), wind, radiation and soil temperature. Once you have registered, access to these datasets is quite fast and straightforward. Of course, some records for a particular site may extend over only a few years but where records continue to the present day, data is updated to 2017.

Highlights include Buxton observations back to 1875, Kew Observatory back to 1871 (until closure in 1980, of course) and Braemar from 1857 until the manual site closed in 2005. There is great scope here for taking on investigative research one might have thought impossible!

#### **Reanalysis data website**

The ERA5 global hindcast from ECMWF is now freely available from the Copernicus Climate Data Store. https://cds.climate.copernicus.eu/cdsapp#!/home

Again, free registration is required. ERA5 covers the world on a 0.25° grid over land and a 0.5° grid over the oceans. Currently it covers the world in 1-hour time steps from 1979 to the present day and work is ongoing to extend it back to 1950.

#### **Future meetings of the History Group**

The next issue of the Newsletter will give an update on meetings planned for the next year or two.

The next meeting of the Group will be on **The history** of ideas in climate change. This is being arranged largely by the RMetS SIG on Climate Change and will be a main Society National Meeting, in the spring of next year. Further details will appear in the next Newsletter and will be publicised via RMetS.

## Winter 1947 in Leicestershire – a boy's eye view

A personal recollection by Dr Peter Rowntree, History Group committee member.

After brief cold spells in December and early January a mild, sunny Thursday to Saturday (16-18th January) tempted our family out for a country walk on the Saturday. I started a fairly mild flu on that walk which allowed me to watch the onset of the cold spell the following week without having to go to school: fog on the Sunday, cold east winds by Tuesday with a few snowflakes on the Wednesday afternoon, more snow bringing a shallow cover on the Thursday. Then, from noon on the Friday (24<sup>th</sup>), I watched the snowflakes falling for four hours building an ever-thickening cover outside our living room window. Our lawn did not emerge till mid-Wednesday 29<sup>th</sup> was memorably March! brilliantly sunny and bitterly cold - maximum temperature -4°C, minimum -12°C the next night temperatures and rainfall amounts observed at a hospital in the east of the city were carried daily by the Leicester Mercury ("LM"). A thaw was predicted for the Saturday in Friday's LM, but next day it was "delayed"! Instead heavy snow fell throughout Sunday, and, with only a brief turn to rain on the Monday morning, continued to the Tuesday evening. The LM reported the worst blizzard for 25 years at Coalville, with two feet of snow and ten feet drifts; several of the county's main roads were blocked. Forty Leicestershire villages were cut off (McCaskill and Hudson (2006) Frozen in time (MH)). A major road in Leicester city centre, Charles St, was covered in sheet ice (LM).

There followed a period of bitterly cold winds from between east and north, almost continuously overcast, with temperatures below freezing from the afternoon of Tuesday 4<sup>th</sup> February till the afternoon of Sunday 23<sup>rd</sup>, apart from a few hours early on Monday 10<sup>th</sup>. There were good sides to the snow - building a snowman, snowballing, sledging in the local parks - though I suffered badly from chilblains. More seriously, the disruption of transport, including coal trains, led to power cuts and then restrictions on use of domestic electricity for 5 hours each day, under threat of fines or imprisonment. Millions of people were thrown out of work nationwide. The LM for Saturday 8<sup>th</sup> February reported that in Leicester, 80,000 out of a workforce of 130,000 had had to stop work; cinema matinees were cancelled (though soccer matches continued on snow-covered pitches). Prayers for better weather were to be offered in churches.

The end of the continuous frost on the 23<sup>rd</sup> also saw the lowest temperatures with morning minima of -9, -13 and -14°C on Sunday 23<sup>rd</sup> to Tuesday 25<sup>th</sup>, with only brief early afternoon thaws, though more obvious melting followed under cloudy skies on 26<sup>th</sup> and 27<sup>th</sup>. Daytime thaws with no snow for the next few days perhaps gave false hopes, but on the evening of Tuesday 4<sup>th</sup> March snow set in. Through the next night, a near-gale drove snow against our bedroom window with a sound I have never heard since. By morning, the window sill was decorated by a narrow drift of snowflakes forced under the woodwork. Eight inches of new snow with a two foot drift lay in our fairly sheltered garden. On a windy corner down the road, the old snow had been swept clear by the gale, leaving bare ice. Most children and teachers still got to school as they did throughout the winter! The temperature failed to reach freezing point that day and with clearing skies the Thursday night gave probably the lowest March temperatures of the century with a local

minimum of -12°C. A hundred villages were cut off in the county and neighbouring Northants (MH). Alternating thaws and heavy snow or cold rain from 9<sup>th</sup> to 15<sup>th</sup> heralded the end of the cold spell and brought the infamous March 1947 floods as the meltwater and rain ran off over the frozen ground.

## Dr Peter Rowntree, Crowthorne, Berks.

Do any History Group members have any notable weather recollections prior to 1947? Having read of the way in which children continued to attend school in 1947 in Peter's account, are there any other examples of a different response to extreme weather, or what we today would call 'hazards'?

## Faces from the Past - Lili Stefania Bankier 18 September 1921 - 28 July 1945

## Brian Booth

One outcome of research into Lili's story was unexpected. After Lili died in an aircraft accident she was buried in Jerusalem, although the Commonwealth War Graves Commission (CWGC) subsequently recorded her grave as having been lost. However, thanks to the support of Rosemary Eshel of the Israel Genealogy Research Association (IGRA), her grave has been located near the summit of the Mount of Olives Cemetery, and the CWGC has updated its records. Rosemary's contribution and translations of Hebrew documents has added greatly to Lili's story, and my gratitude for her invaluable assistance cannot be overstated.

Believed to be the only child of Adolf and Sophie Bankier, Lili was born on 18 September 1921 in Lodz, Poland.<sup>3</sup> Her father, a lampshade maker, managed a shop in Piotrkowska Street.

During the following years Poland's Jewish population prospered, but increasing numbers of Jews, many refugees seeking a safe haven from countries in which they were persecuted, resulted in a corresponding increase in tensions with the indigenous population. It is probable that this was the reason which led to Lili and her mother emigrating to Palestine (now Israel) in 1935. It is unclear as to whether Adolf remained in Lodz or accompanied his wife and daughter to Palestine only to return to Poland later. Whatever the sequence of events he was in the city when German forces invaded Poland in September 1939. Having been incarcerated in the Lodz Ghetto by Nazi authorities early in 1940, he survived increasingly harsh conditions for over two and a half years before succumbing to heart failure on 3 August 1942.<sup>4</sup>

Meanwhile his wife and daughter had settled in Palestine,<sup>5</sup> a country in which tensions between Jews and the majority Arab population were of similar intensity as those they had fled from in Poland.



A pre-WW2 postcard of Ein Karem, when it was known by its Arabic name of Ain Ikram

Little is known of their lives following their arrival in Palestine, but by the Second World War Sophie was managing a small hotel, '*Miss Carey's Pension*', in the predominantly Muslim town of Ain Ikarim, now the Jerusalem suburb of Ein Karem.<sup>6,7</sup> Possibly prompted by recruiting posters Lili enlisted in

the Women's Auxiliary Air Force (WAAF) at RAF Ramleh on 27 September 1944.<sup>2,8</sup> There is no record of where she worked before her enlistment, although there is circumstantial evidence she had been a clerk.



Palestinian WW2 WAAF recruitment poster.

After a month of basic training and learning about service life she was posted to RAF Heliopolis, on the outskirts of Cairo, for meteorological training. Her next move, to Alexandria, in early January 1945, but her stay was brief, and before long she had returned to Palestine and the meteorological office at RAF Aqir.<sup>8</sup> This was the major meteorological unit known as 11 Meteorological Forecast Unit until being renamed 25 Meteorological Forecast Unit on 15 July 1945.

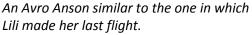
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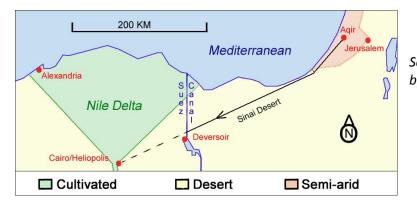
*Observations made by Lili (LB) on 21 July 1945 (top and bottom three); from the Aqir Daily Register. (© Meteorological Office)* 

On 28 July, she boarded a twin-engined Anson of 76 OTU at Aqir, bound, it is believed, for a week's leave in or near Heliopolis. In addition to the two crew, a pilot and wireless operator, there were two other passengers, an unnamed RAF Sergeant and WAAF Corporal, Felice Poser, who was returning to the meteorological office at RAF Heliopolis near Cairo after a week's leave in Palestine.<sup>9,10</sup>

Before boarding the Anson the three passengers were handed parachutes but, crucially, were not given a briefing as to how to use them. Under a cloudless sky the aircraft left Aqir at about 11 am local time for the 380 km flight. Some 80 minutes later, whilst flying at 2000 ft above the endless Sinai Desert, the left engine lost power. Unable to maintain altitude, the pilot ordered everyone to don their parachutes as he prepared to make an emergency landing at the nearest airfield, Deversoir. When the Deversoir control tower failed to respond to his radio calls, the pilot attempted attract attention by firing a red flare from the aircraft's Very pistol.<sup>11</sup>







Schematic map showing the probable track flown by the Anson on 28 July 1945. (© B Booth)

Unfortunately he inadvertently pulled the pistol's trigger whilst it was still in the cockpit towage holder, the consequences proved tragic. Exploding immediately the Very cartridge caused a small fire and great deal of red smoke. In the ensuing panic and confusion the wireless operator mistakenly thought the pilot ordered the aircraft to be abandoned.<sup>12</sup> At 800 feet above the ground, and without any prior briefing as to what to do, a terrified Lili was the first to be pushed out of the aircraft exit. Although her hand had been placed on the ripcord she never pulled it and was killed on hitting a building. Felice and the wireless operator, both jumped safely immediately after Lili.

After the flare burnt out and the smoke cleared the pilot was horrified to find only the Sergeant passenger remained on board. Shortly after the aircraft made a successful wheels-up landing on the airfield.

Lili's body was flown to Palestine the following day, and on 30 July was laid to rest in a southeast-facing terrace near the summit of the Mount of Olives Cemetery in Jerusalem. In accordance with Jewish custom her tombstone was not unveiled until a year later, on 15 August 1946.<sup>7</sup>

After Lili's death Sophie Bankier continued to manage the pension at Ain Ikarim,<sup>5</sup> but in the spring of 1948 she was one of the majority of women and children forced to evacuate the town when it became a focal point for fighting during the Arab-Israeli confrontation. In about 1954 she married Eugene Krolikowski, who had been living in America for some years. It is believed the marriage took place in Israel, and the couple travelled to America shortly after.<sup>13</sup> They eventually settled in the Brighton neighbourhood of Boston, Massachusetts.



'O' marks Lili's grave; it lies on the south-east facing slope near the summit of the Mount of Olives Cemetery. The building to the top left is the Seven Arches Hotel. The photo is taken from the south. © Andrew Shiva.

*Lili's grave in the Mount of Olives cemetery. The inscription reads:* 

Here Lies Leah (Lili) Bankier Daughter of the late Adolph Born month of Elul (September 18th1921) Died Yod-chet month of Av (28 July 1945) May her dear soul rest in Peace



(Via Rosemary Eshel)

Sophie always believed her daughter's grave had been destroyed during the Arab-Israeli confrontation, or subsequent fighting during the occupation of the West Bank by Jordanian forces (from 1948 to 1967). She was not alone in her belief as in 1957 British authorities were of the opinion that the entire Mount of Olives Cemetery had been so laid to waste that it would never be rehabilitated. It was this that led to the Commonwealth War Graves Commission placing a special memorial for Lili in the Ramleh Cemetery during 1961.<sup>14</sup>

Lili never left her mother's thoughts, and in her memory Sophie instituted an annual education grant for pupils of the Hebrew School of B'nai Moshe Temple in Boston.<sup>15</sup>



Ramleh War Cemetery (© A C M Thompson). Lili's memorial is about half-way along on the left side of the grass walkway.



Lili's special memorial was placed in Ramleh War Cemetery, in about 1961. The text at the base is now covered with shrubs, but reads 'Buried at the time in Jerusalem (Vaad Hakehilla) Cemetery, but whose grave is now lost. "Their glory shall not be blotted out"



Despite the Mount of Olives Cemetery being severely damaged and desecrated during the Jordanian occupation of East Jerusalem,<sup>16</sup> Lili's grave somehow survived, and was identified between 2000 and 2008 during an ongoing project to identify, map and restore graves in the Mount of Olives Cemetery.<sup>17</sup>

Sadly this was long after Sophie's death; she passed away on 4 August 1989, and rests in the Sharon Memorial Park near Brighton.



Sophie Krolikowski's grave in Sharon Memorial Park, Mass. (© Deborah Gagnon)

## Footnotes:

Only two British meteorologists became members of the Caterpillar Club by virtue of using a parachute to save their lives. The first was Frank Ludlam (later Dr Ludlam, Professor of Meteorology at Imperial College, University of London), who jumped from an out-of-control Hampden over Keflavik shortly after he arrived in Iceland to become a Meteorological Air Observer with 1407 Meteorological Flight in June 1943.<sup>18</sup> Felice was the second, her experience making her the only lady member of the club until at least 1957.<sup>7</sup>

## Notes:

1. Although 'Palestinian' today refers to Non-Jew Arabs, historically it encompassed both Jews and Arabs living in what was then Palestine, but now Israel. 615 Palestinian women enlisted in the WAAF, of whom Lili was the 591st.

2. Yosef Shavit. 1995. 'Volunteers in Blue' Ministry of Defence, Israel

- 3. Personal communication with the Lodz Jews Heritage Foundation
- 4. Lodz, Poland, Ghetto Hospital Death Records 1941-1945
- 5. Personal communication from Rosemary Eshel of the Israel Genealogy (IGRA).
- 6. Item on page 2 of The Palestine Post dated 14 August 1946
- 7. Item on page 8 of The Palestine Post dated 13 June 1947
- 8. Lili's WAAF Service Record.

9. Gerald Bowman. 1955 *Jump for it: Stories of the Caterpillar Club*. Evans Brothers. (Lili is simply referred to as a WAAF in this account.)

10. **Colin Cummings**. 2004. *The Price of Peace: A Catalogue of RAF Aircraft Losses between VE Day and the End of 1945*. Nimbus Publishing (Lili is incorrectly named as Hilda Thompson in this account).

11. National Archives file AIR 28/200 (Deversoir Operational Record Book)

12. RAF Form F1180 - Accident summary for Avro Anson NK592

13. She was still known as Sophie Bankier whilst living in Israel during 1953, but US records show she was granted her Social Security Number (SSN) in during the period 1954-55. The date an SSN is allocated provides a good approximation of an immigrant's arrival in the US.

14. Letters dated 1957-1961 from the Commonwealth War Graves Commission records.

15. Deduced from items in the *Boston Jewish Times* dated 7 July 1966 and 29 June 1967.

16. https://www.jewishvirtuallibrary.org/the-mount-of-olives

17. https://mountofolives.co.il/he/deceased\_card/%D7%9C%D7%90%D7%94-%D7%9C%D7%99%D7%9C%D7%99-%D7%91%D7%A0%D7%A7%D7%A8/

18. Kington J.A. and Rackliff P.G. 2000. Even the birds were walking Tempus Publishing.

Brian Booth, Devizes, Wiltshire

## Howard Oliver

There are many weather series available for past centuries that are suitable for inclusion in historical climate and environmental studies. However, relatively few go back in any great detail beyond the beginning of the instrumental record in the seventeenth century. There is still an obvious need for detailed weather information which includes records much further back in time.

Over the last 25 years James Rothwell, retired Met. Office senior forecaster, History Group member and Royal Meteorological Society member since 1947, has researched and produced his own exceptionally long weather series for "Greater Central England". It covers the period from 56BC (to coincide with preparations for the Roman invasion) to modern times with around the last 800 years having data for every year. The final resulting hard copies of the complete series, together with the associated extensive methodologies and bibliographies, are now printed and available for consultation at the Archives of the Met Office in Exeter and Nottingham University.

The most detailed listings run from 1748 onwards and Rothwell compiled them from a very wide range of sources. What he has attempted to do is present climatological data that together give a reasonably accurate historical account of the meteorological "character" of every month. He includes three temperature parameters and three for rainfall, together with details of thunder, frost and snow. In addition there is a general weather summary, plus related historical note, for each year, which runs to around another whole typed page. Temperatures from the mid 18<sup>th</sup> century onwards are also available in Centigrade. For the earlier years the record represents data for England and of course had to be based on predominately anecdotal evidence of various kinds.

Where possible results from previous temperature analyses were correlated with the Central England conditions and incorporated into the overall record. From 56BC to 763 there were five main sources of seasonal descriptions. From then, up to 1585, over a dozen sources were available but with fewer again to 1616. From 1617 the number of sources increased, with the Manley CET series becoming available from 1659.

In summary the Rothwell Record describes the meteorological character in some detail of every month back to the early 18<sup>th</sup> century, general seasonal details of almost every winter and summer back to 1167 and descriptions of over 10% of the years back to 56BC. To give a flavour of the record, the following figures present the data for two periods a millennium apart.

This article was based on example material covering all aspects of the extensive research and production of his record. His aim was to produce a permanent record that will be valuable for future climatological historians or anyone interested in the weather and its effect on our history. It is to be hoped that our members and others reading this Newsletter article will indeed find the information of use.

(The examples include 1783 - readers may recall that the Icelandic volcano Laki erupted in June of that year and the following summer is described as 'hazy' in the account that follows, a probable reference to the volcanic dust-veil. A year-by-year weather chronology is also a feature of the book Climate and Weather (Collins New Naturalist Library, 2010) authored by History Group member John Kington - JCM).

#### 761

#### Another severe winter

762

Drought, with a warm or very warm summer.

#### 763

A hot and very dry summer, which dried up the springs.

#### 764

A winter of extreme cold and heavy snowfalls, followed by a cold spring. It lasted from Dec. 763 to April 764. The intense frosts split trees, and many birds and animals died. A brief thaw occurred in Feb. It was a cold, late spring. but the summer was warm and very dry. There were serious fire problems in London, York, Southampton and Winchester. (Simon of Durham).

772

A warm or very warm summer. (Est. Mean Temp. Jun - Aug. = 62 deg F).

775

A long, cold and very frosty winter, then very warm dry spells in the summer.

783

A very warm, dry summer, in a very hot spell many people died from the heat. (Est. Mean Temp. Jun - Aug = 62 deg F). (Carolingian Annuls).

791

A cold winter, with intense cold spells in Europe.

#### 793

A warm or very warm summer . Severe thunderstorms occurred. (Est. Mean Temp. Jun. - Aug. = 61- 62 deg F).

#### 795

A cold and snowy winter, with severe cold in Europe.

797

A year of great drought and famine in England

#### 799

A year of storms, in which many ships were lost around the coasts of Britain.

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Rainfall, RJan $2.0$ Feb $2.0$ Mar $1.5$ Apr $0.5$ May $4.0$ Jun $3.0$	.Days. Max.Fa	27-28 27-28 -3 11-12	7 7 10 11 14 23 3 3	Remar V. Fabsity STAM ALL, LUCT + ST VERY COD, IFA WAMMIN MIN MOSTLY R. CO LATE FADOTS WAMA AT TH SEVERE TS EQUAL HITTEST COOLED & SHOW FAED. F.G. SE	KS - MANY TO MID MONTH, EQ. FRAJTS UNTIC , D-MONTH. B- ZATE A VENY WET EN E END. FRAJTA (OF RHATS DU MONTH ON RECORD	THEN VERY Cros. 2) JH ND.

#### SUMMARY

The year started with a very cold spell, but it became mild at the end of **January**. **February** was mild and often stormy until mid-month, after when it became colder.

**March** was very wintry until mid-month, but with further frosts until the 27<sup>th</sup>. **April** was generally very dry. It began with a cold spell, but was rather warm in mid-month. **May** was generally cold and dry, with late frosts during the last week It became very wet during the last few days.

It was very dry from March 10<sup>th</sup> until May 27<sup>th</sup>, but with a sharp frost on March 5<sup>th</sup>, and late frosts on May 25<sup>th</sup> and 26<sup>th</sup>. At the end of May there were 3 days of rain giving 3 inches of rain in many places.

The first half of June was rather cool, with a rainy spell lasting 10 days. It then became drier and warmer. July was one of the hottest months on record, and was often thundery, and also hazy. Temperatures exceeded 90 deg F on the  $11^{th}$ , and 3 of the warmest nights on record occurred  $10^{th}-12^{th}$  July. After a hot start, August was rather cool, with a cool and showery spell in mid-month.

September was mostly cool and rainy at times. October was a generally rather cold but rather dry month. A very mild spell came in mid-November.

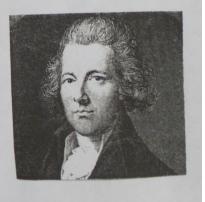
After a mild start it became increasingly cold during **December**, with frequent fogs, then snow and extreme cold near the end of the year. There was a "biting wind" during the last week, with a "White Christmas". The cold was extreme on the  $30^{th}$ , when the temperature fell to 8 deg F overnight, and did not rise above 20 deg F that day.

A cold winter, a very wet end to May, one of the hottest July's recorded, and then a very cold December. A year of extremes of temperature.

#### **HISTORICAL NOTES**

Jan. 20<sup>th</sup>.. The end of the American War of Independence. William Pitt formed his government.

William Pitt (below) led the Tory government from 1783, when he became Chancellor of the Exchequer, First Lord of the Treasury and Prime Minister. He was only 24 years old. He resigned, returning in 1804 until his death in 1806. He was the son of William Pitt, Earl of Chatham. At first most of the House was against him, but he had the support of the King and of the people, and at the next election they voted in his supporters. Pitt supported moderate parliamentary reform and a liberal trade and economic policy. In 1799 he introduced an income tax to help Britain pay for its wars with France. His early death from ill health took place not long after Britain's great naval victory at Trafalgar.



Dr Howard Oliver, Swanage, Dorset

The following workshop has just been announced by *The International Commission on the History of Meteorology*. Some History Group members are already involved with ICHM but others may be interested in their activities. Details can be found at <u>http://meteohistory.org/</u> where information on membership and access to their electronic journal *History of Meteorology* can be obtained. As we have several aims in common we have agreed to publicise each other's activities.

(CHSTM, below, is the Centre for the History of Science, Technology and Medicine)

## SHAPED BY THE SEA: HISTORIES OF OCEAN SCIENCE, MEDICINE AND TECHNOLOGY 27-28 June 2019, CHSTM, University of Manchester

## CALL FOR PAPERS

'Shaped by the Sea' is a two-day workshop which seeks to examine how the ocean environment has shaped science, medicine and technology. Through a focus on a range of contexts, the workshop hopes to address question such as: How did working and travelling within a maritime environment affect experiences and developments in medical, scientific and technological practice? How did the oceans shape the production of knowledge? How did science, medicine and technology underpin the dynamic relationship between land and sea, and how did this shape our understanding of the oceans?

The workshop aims to draw together scholars working on any aspect of science, medicine and technology in or on the global ocean, from a variety of disciplinary perspectives and from across all historical periods. We invite papers which touch on a wide range of possible topics including, but not limited to:

- The physical effects of the ocean environment and the space of the ship
- The relationship between land and sea in the production of scientific knowledge
- The effects of ocean voyages on the body and mind
- Developments in seafaring and ocean technology
- Physical and mental health at sea
- Relationship with colonialism, exploration, marine exploitation
- Meteorology and Oceanography
- The human influence on marine ecosystems
- The connection of ocean science, medicine and technology to global mobility

Please send proposals (max. 300 words) for 15-20 minute papers or alternative sessions to <u>ShapedbytheSea2019@gmail.com</u> by 5 April 2019.

We particularly encourage submissions from postgraduate and early-career researchers, and we are delighted to be able to offer a number of small travel bursaries with the assistance of the Institute of Historical Research and the British Society for the History of Science. Please indicate in your email if you would like to be considered for a travel bursary.

We welcome all offerings, from letters, to brief articles – just drop me an e mail. Finally, I would like to thank those who have contributed to this issue. My contact details are as follows: <u>Julian.mayes@tiscali.co.uk</u>

Julian Mayes, Newsletter Editor, Molesey, Surrey, March 2019