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Cover photo:

Demolition of the chimney at Garnier Road Sewage Pumping Station, Winchester, 23rd May 1978. (Picture courtesy of the *Hampshire Chronicle*, 26th May 1978)

Hampshire Industrial Archaeology Society

(formerly Southampton University Industrial Archaeology Group)

Journal No. 13, 2005

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The Contributors

Gerald Davies

Gerald Davies' career was in electronics and aerospace systems which have little in common with his interest in canals and railways, which go back to his childhood days. A Londoner by birth, he has lived in Hampshire and the Isle of Wight for the last fifty years. He spent much of his career at the Royal Aircraft Establishment at Farnborough. He joined SUIAG in 1982 and has a broad interest in Industrial Archaeology.

Martin Gregory

Martin Gregory's interest in the history of technology goes back over 40 years. He has researched and built model steam and Stirling engines for many years and also works on the history of the sewing machine. He has been a member of HIAS and its predecessor for over 30 years, has served as Secretary and Chairman and is the present editor of the Journal.

Jeff Pain

Jeff Pain has been a member of the IA group since its early days in the 1960s. He was born in Southampton and, apart from wartime, has always lived and worked in the area. Educated at Taunton's School, he followed his father into the shipping world, being employed in Freight, Passenger and Ship Agency work. After the reorganisation of shipping, he spent twenty years or so with Pirelli, first at Southampton and, when that closed, at Eastleigh. His main interest has always been in transport covering ships, railways and aircraft, with road interest limited to trams and buses.

Meredith Thring

Professor Meredith W. Thring, ScD, FEng, was Professor of Fuel Technology and Chemical Engineering at Sheffield University, 1953-64, and Professor of Mechanical Engineering at Queen Mary College, University of London, 1964-81. He is retired and lives in Suffolk.

Tony Yoward

Tony Yoward grew up in Swindon and moved to Emsworth in 1952 to manage, and later own, the Pharmacy. He is now retired. He always had an interest in industrial Archaeology, especially canals, and has served on the AIA committee and organised the national conference in Hampshire. In 1970, he moved into the converted Slipper Mill building and the interest in mills took off. He has published a 'Glossary of 3500 mill terms' and is the Archivist for the Hampshire Mills Group. He has been a member of the SPAB Mills Committee, Chairman of SUIAG and was one of the founding trustees for the Mills Archive, a website for British Mills.

Editorial and Acknowledgements

Welcome to Issue 13 of our *Journal*. Once again the *Journal* has a wide variety of articles, all but one of which are contributed by members of the Society.

Gerald Davies writes about the start of mass air travel in the fifteen years immediately after the Second World War. His article recalls a time when there were still several independent aircraft manufacturers in the United Kingdom. The article on Winchester's sewage pumping station follows its evolution over more than a century. A symbol of the Victorian revolution in public health it was, in the early 1900s, a showpiece of environmentally friendly engineering. Jeff Pain's article on the early days of Southbourne tells the story of one man's dream of creating a new seaside resort on the South Coast. Chesapeake Mill will be known to most of our members though its importance may not. Tony and Mary Yoward recount its history and that of the naval battle which provided the timber for its rebuilding. Captain Thring's calculator gives us a fascinating insight into the ingenious mechanical calculators used in the pre-electronic age.

My thanks are due to all who have contributed to this edition of the *Journal*. Acknowledgements and thanks for the provision of illustrations are made as follows:

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Martin Gregory
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The Growth of British Commercial Aviation prior to the Jet Age

Gerald Davies

Today air travel is regarded by most people as the norm for all overseas trips and, increasingly, for longer trips within the country. The growth of commercial civil aviation from its earliest beginnings has been almost exponential. It is currently constrained only by the capacity of existing airports to handle increasing numbers of passengers and amounts of freight, and the ability of the air traffic control system to ensure the safety of the increasing number of flights in a finite airspace. This situation has only been reached in more recent decades but presents a major problem to logistics planners.

The earlier years of aviation were devoted primarily to military requirements as dictated by two world wars and their aftermath. This is clearly borne out in aviation literature where almost every type of military aircraft has numerous books devoted to it. With a few notable exceptions, e.g. *Concorde*, the majority of civil aircraft, including some very successful designs, have not had their capabilities promulgated to anything like the same degree. Civil aviation has become increasingly important in the twenty first century.

In industrial archaeological terms, aviation has received little attention to date when compared with that afforded to other forms of transport. This is in spite of the centenary in 2003 of the Wright brothers' first powered flight of a heavier than air machine. This event alone justifies the inclusion of aviation as a major topic in industrial archaeology and is reflected in the growing number of aviation museums, both civil and military.

The early days

The seeds of British commercial aviation were sown in the years immediately following the 1914-18 war. They quickly germinated to produce the foundations for the ever expanding network of airlines and routes which exist today. In response to the requirements of war, a number of highly competent design teams had been formed. In several cases, these later turned their expertise to meeting the needs of the embryonic civil aviation industry. Significant advances had been made in the fields of aerodynamics, lightweight structures and in the design of aircraft engines. More importantly, production techniques had been developed to give improved levels of reliability and quality assurance. Experience had been gained in the management and maintenance of aircraft fleets. Finally, the cessation of hostilities meant that there were available personnel skilled in flying and engineering maintenance essential for the success of commercial aviation.



Figure 1. A pre-war design: the De Havilland *Rapide* of British European Airways which was used on their Channel Islands routes.

The types of aircraft available, though capable of transporting very small numbers of passengers, were far from being commercially viable for airline operation. In the main they were only useful for offering joyrides to the more daring members of the public. Also lacking in these early days were airfields and the necessary infrastructure to provide for any form of regular air services. As early as 1920, flights were being offered to the Continent, albeit with somewhat unreliable schedules subject to wind and weather. One significant incentive to the emerging operator was the valuable contract for the carriage of mail. Once a 'mail contract' had been secured the transport of passengers became a worthwhile bonus.

The types of aircraft available, though capable of transporting very small numbers of passengers, were far from being commercially viable for airline operation. In the main they were only useful for offering joyrides to the more daring members of the public. Also lacking in these early days were airfields and the necessary infrastructure to provide for any form of regular air services. As early as 1920, flights were being offered to the Continent, albeit with somewhat unreliable schedules subject to wind and weather. One significant incentive to the emerging operator was the valuable contract for the carriage of mail. Once a 'mail contract' had been secured the transport of passengers became a worthwhile bonus.

The years between the Two Wars

During the late 1920s and into the early 1930s air travel became more organised. A number of aircraft manufacturing companies were designing and producing planes suitable for the needs of airline operators. The same was happening in other European countries. Most of these designs were for multi-engined aircraft,

both monoplanes and biplanes, with significantly greater capacity than was available previously. This period is sometimes known as ‘the Romantic Age’ of air travel. The romantic element was to be found in the exclusivity of air travel and the quality of service which it was possible to offer to the very small numbers of passengers. Nevertheless, comfort was decidedly lacking by modern standards. When unfavourable weather conditions were encountered, flights could be anything but smooth.

In the two decades preceding the 1939-45 war the British airline industry began to be seen as a viable entity. It was a potential leader in European operations with ambitions to reach further afield. In the United Kingdom two airlines eventually dominated, though many more survived as well. On international routes, the government-backed Imperial Airways (later to be known as the British Overseas Airways Corporation) became the national flag carrier. On domestic services, the principal operator was the Railway Air Service, jointly promoted by the four major railway companies who set up a network of internal routes which later formed the basis for British European Airways. Airfields suitable for regular commercial operation were few in number, serving mainly the larger cities and towns but this was not a major limitation at the time.

Initially, navigation and landing aids were rudimentary. The techniques employed were those which had been used for centuries by seafarers. They relied to a great extent on dead reckoning and knowledge of the wind conditions. This was supplemented, where possible, by glimpses of the terrain being overflowed being compared with maps to identify towns, major roads and railways. Major airfields were provided with radio beacons which aircraft could home in on. Other aids were essentially very basic, as was the range of on-board instruments to assist the pilot. Nevertheless, regular air services were established linking London to other European capitals and, within the United Kingdom, most of the major cities enjoyed limited air services.

In these early days many aircraft manufacturers were competing for business. Three of these, Armstrong Whitworth, Handley Page and De Havilland, saw the potential of commercial aviation and invested heavily in the design and construction of civil aircraft. The last named was particularly successful in providing aircraft for use on domestic routes with their very distinctive *Dragon* and *Rapide* biplanes.

Britain had a specific requirement to improve communications with its vast and far flung Empire, in particular, to put India, South Africa and Australasia in closer contact with the Motherland. Imperial Airways extended their routes by degrees to embrace Egypt, the Middle East, and eventually the Indian subcontinent, using aircraft modified for use in tropical climates. In many areas suitable airfields were few and far between, where they existed at all. Hence, recourse was made to amphibious and maritime aircraft for certain sectors of these routes, a concept which was to prove useful in wartime. Paramount in this field were Supermarine of Southampton and Short Brothers of Rochester. In the late 1930s, the latter firm produced their highly successful ‘C’ class *Empire* flying boats which enabled routes to be established using harbours, lakes and rivers to link the furthest extremities of the Empire with Britain. These aircraft had a greater range than their land based counterparts and could safely operate over the oceans. With refuelling stops in the west of Ireland and Newfoundland it was possible to operate services to Canada and America, the latter in conjunction with Pan American World Airways who used Boeing *Clipper* flying boats.



Figure 2. BOAC Short *Solent* flying boat ‘*Somerset*’ at anchor. Flying boats were used in the immediate post-war period.

This then was the situation in 1939. The number of passengers flying was very small in comparison with other methods of travel. Standards of comfort, though improving, were still lacking in many respects but the service offered to passengers was of a superior standard. This was especially true on international flights of long duration, with excellent meals being prepared in the confines of the cramped galleys. In addition to the two main operators, a number of minor airlines were set up in the 1930s with varying degrees of success.

World War Two and its aftermath

The outbreak of war in 1939 brought the cessation of all scheduled airline operations. All transport aircraft were requisitioned and any essential air movements were regulated by the RAF. In the design offices and factories all work stopped on the next generation of airliners and was concentrated on meeting the requirements of the RAF. Commercial aviation as such was put on hold, though in the later years of the war, limited flying boat services were operated from Poole to Lisbon and also across the Atlantic conveying VIPs on government business.

In the longer term the war was to pay significant dividends resulting from advances in aircraft and engine design and manufacture. In addition, airfields were provided in large numbers both in Britain and in the various overseas theatres of operation, where none had existed before. The return to peacetime conditions, albeit constrained by severe economic pressures and shortages of materials, meant that the labour market acquired highly experienced flying and other aviation personnel and considerable numbers of ex-military aircraft became available. Though many aircraft were battle scarred and only fit for scrap, some were in very good condition. The demands of Bomber and Coastal Commands had generated large numbers of multi-engined aircraft with speed and long range performance which could only have been aspired to pre-war. The need to transport troops and supplies rapidly in theatres of war had been met with derivatives of these aircraft which, with some modification, could readily be adapted to meet the newly identified needs of commercial aviation.

Some other very important advances resulting from scientific work done during the war, which had direct benefits for commercial operations, were in the fields of radio communications and radar navigation. These enabled crews to have more or less continuous contact with ground controllers and to know their position relative to ground installations much more precisely. Radar had been developed to monitor



Figure 3. BEA *Dakota* at Northolt in the early 1950s.

aircraft movements both near airports and en route. Prescribed airways were established internationally and aircraft were allocated heights at which to fly within these airways. This provided the basis for a complete system of air traffic control, essential as the density of traffic increased with the growth of air travel.

The post-war scene in Britain and the rest of Europe cannot be assessed without taking cognisance of developments in commercial aviation in America. The great expanse of America, with long overland distances between major centres of population, meant that air travel was seen as an increasingly essential factor in all aspects of life. Thus, a comprehensive network of airlines could cover the country and be financially viable from the outset. To meet these anticipated demands for air travel, many aircraft manufacturers sprang up hoping for a bonanza of orders. Of these, three companies, Boeing, Douglas and Lockheed, came to dominate the rapidly developing market supplying the internal airlines whose operations by 1939 exceeded those of the rest of the world. The Americans had fought a shorter but in many ways more intensive and widespread war, ranging across the European and Pacific theatres. Everywhere, aviation had played an essential part in securing victory. In addition, America with its massive production facilities had acted as provider of all classes of armaments to the Allied Forces. As a result, the post-war needs of the majority of the world's airlines were met by the three American manufacturers, Boeing, Douglas and Lockheed, a situation which was to continue for the rest of our period.

The Berlin Airlift

The war in Europe had been over for barely three years when an unexpected and potentially serious event occurred which, as things turned out, provided a boost to the pack of independent airline operators whose

main business consisted of attracting private charter work. Under the peace negotiated in 1945 between America, Britain, France and Russia, the city of Berlin had been divided into four zones, each under separate jurisdiction. Supplies for the three zones controlled by the Western Allies reached Berlin by road, rail and canal across the Russian controlled zone of East Germany. In July 1948 the Soviet army closed all overland access between West Germany and Berlin. The only way in which essential supplies could be brought into Berlin was by air along closely defined 'air corridors' across East Germany. An airlift was rapidly arranged but the combined resources available to the USAAF and the RAF proved inadequate for the demands involved. In the absence of regular airline capacity, British charter operators were invited to participate, under strict military control, using all suitable aircraft at their disposal. Those were mostly ex-military types modified to carry cargo. The more enterprising operators seized this business opportunity. Among them were Freddie Laker and Harold Bamberg who had bought many such aircraft in sales of war surplus, and started operating from Stansted in Essex, Bovingden in Hertfordshire and Manston in Kent. Even a couple of ex-RAF *Sunderland* flying boats were used to ferry foodstuffs, landing on Lake Havel in Berlin. In all, nearly 22 000 flights were made before the airlift ended in August 1949 when the overland routes were once again opened.

This period of a year's duration provided a welcome source of income for the struggling charter airlines, but in the aftermath of the airlift many were unable to find alternative charters and were forced out of business. The more successful went on to form well established independent airlines, taking advantage of the continuing growth of air travel in the 1950s.



Figure 4. The Vickers *Viking*, the mainstay of BEA services from Northolt in the 1950s.

The Requirement for Modern Airports

An essential requirement for successful commercial aviation is a network of airports capable of handling passengers and freight in the quantities anticipated. During the 1930s the principal aerodrome for international flights was at Croydon south of London. Although only provided with grass runways initially, Croydon was adequate for those types of aircraft then in use. Certain of the major provincial cities and towns also had airfields with only basic facilities but, in the main, these could not handle the larger aircraft coming into service. The flying boat services utilised the facilities which were set up at certain seaports, notably Southampton and Poole.

With the outbreak of war in 1939 all existing airfields were commandeered by the RAF or the RNAS and, in the period to 1945, many additional airfields were constructed, principally in the south and east of England, to handle heavier aircraft. However, the majority of these were not located or designed to meet the requirements of commercial air travel nor did they have the infrastructure necessary to handle passengers in quantity. While certain of these airfields were used in the immediate post-war period, notably RAF Northolt

for passenger services and RAF Manston for freight and charters, the need for new and larger airports to serve London and the major provincial cities was seen as a priority by the post-war government.

In the case of London a decision had been taken in 1943 to build an airfield near Hounslow, west of London, capable of taking the heaviest aircraft then envisaged. It was assumed that, after the cessation of hostilities, it would provide for the anticipated needs of commercial aviation. The first main east-west runway was ready for use in September 1945 and the airport, known as London Heathrow, was handed over to the Ministry of Civil Aviation in March 1946. Prior to this, British Overseas Airways Corporation (BOAC) international flights had been using Hurn (Bournemouth) and Blackbushe (Camberley) airfields, which continued as diversionary airfields when weather conditions prevented operations at Heathrow. Initially facilities at Heathrow were limited, a series of temporary buildings along the A4 (Bath road) handling all passenger movements. A second runway was operational by the end of 1947 and, by 1950, a total of over half a million passengers had passed through the airport involving nearly 40 000 aircraft movements.

By 1953, passenger numbers had reached over one million and there were still only the temporary facilities on the north side of the airport. The permanent central terminals did not come into use until April 1955 with the opening of the Europa building (now Terminal 2). The Queen's building with the new control tower followed in December 1955 and the Oceanic building (now Terminal 3) was not opened until 1961. The temporary facilities along the Bath road were not finally closed until March 1962 and have since been demolished.

The relatively small airfield at RAF Northolt became the base for British European Airways (BEA) services from 1946. From immediately after VE-day until the formation of BEA all continental flights were operated by 110 wing of RAF Transport Command out of Croydon airport which, by that time, had a tarmac runway. BEA commenced with a fleet of 21 ex-RAF *Dakota* aircraft which were later modified and given the name *Pionair*. In due course these were supplemented by the purchase of Vickers *Viking* airliners, a derivative of the *Wellington* bomber. In 1947 BEA took over the operation of the domestic air routes previously managed by the Associated Airways Joint Committee under wartime restrictions. All BEA flights continued to be operated from Northolt until October 1954 when they were transferred to Heathrow on completion of the Britannia building (now Terminal 1).

The third airport to serve London had been established in a small way before the war at Gatwick in Sussex. Gatwick was decommissioned by the RAF in 1946. BEA and other operators commenced scheduled flights from there in the early 1950s but it was not until 1958, following a major reconstruction and enlargement of the airfield, including a new runway, that Gatwick was formally given the title of London's Second Airport. By 1960, total passenger numbers had reached nearly half a million but, in spite of the excellent facilities, operations were almost entirely in the hands of private sector airlines, principal among which was Freddie Laker's British United Airline (BUA) formed by the merger of six smaller but long established minor domestic airlines.



Figure 5. BOAC Handley Page *Hermes* airliner flying over the Needles.

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Although air travel in the 1950s was concentrated largely on the three London airports, several provincial cities saw the necessity of providing airports capable of handling modern and future types of aircraft, and of offering international as well as domestic services. Notable amongst these were Manchester (Ringway), Birmingham (Elmdon), Liverpool (Speke), Edinburgh (Turnhouse) and Glasgow (Renfrew). Later additions included Newcastle (Woolsington), Leeds/Bradford (Yeadon), East Midlands (Donnington) and Cardiff (Rhoose). Prestwick airport in Scotland was developed initially as a staging post where services from

northern Europe to North America could refuel, though it did generate traffic of its own, mainly charter flights. It remains Scotland's main airport for long haul flights.

The Growth of Services operated by Britain's Airlines

At the end of the war in 1945, very few aircraft designed for commercial operation existed, an exception being the BOAC flying boats. As a stop gap long range bombers and troop transports were made available and, with minor modifications began a skeleton airline service. While being far from ideal and not really commercially viable, these aircraft enabled the setting up of overseas bases for future development and provided British airlines with a head start in post-war airline operation.

The routes operated by BOAC and BEA in the period following 1945 were initially based on those of the pre-war era but were rapidly extended to serve additional destinations and provide increased frequency. They were to form the basis of what has become a most intricate network stretching across all five continents. To cover South America which had not been served before the war, a new company, British South American Airways Corporation (BSAAC), was formed. It operated via West Africa to Brazil, Argentina and Chile and had a relatively short independent existence, merging with BOAC in 1949.

Intercontinental Services

The long distance Empire routes pioneered pre-war by Imperial Airways involved many short flights using a variety of aircraft types. These had been replaced by direct flights with the advent of the Short 'C' class flying boats. Derivatives of these flying boats, converted from military *Sunderland* and *Seaford* designs, commenced regular services to Australia, the Far East and South Africa from Poole harbour and from 1948, using the new terminal at berth 50 in Southampton docks. With a crew of seven, they could carry up to 30 passengers who enjoyed excellent in-flight facilities. They proved very popular, taking a week to reach Sydney or four and a half days on the Johannesburg service.

The era of flying boats, however, was drawing to a close as faster types of land based aircraft entered service. One bonus for the airline industry was that many new airports were created across the Middle East and beyond, while existing airfields were upgraded to cater for larger aircraft. This meant that the routes on which the flying boats had been so successful could now be flown faster by land based aircraft and by 1949 the Lockheed *Constellation* airliner was replacing the flying boats on routes to the Far East and Australia. From 1950 it replaced the flying boats to South Africa. The flying boats were sold to the independent airline Aquila Airways who operated from Southampton to Lisbon and Madeira, various destinations in the Mediterranean and to the Canary Islands which were becoming popular with holiday makers. In 1958 they were no longer deemed to be economic and were withdrawn, though examples have been preserved.



Figure 6. Boeing *Stratocruiser* used on the BOAC 'Monarch' de-luxe service to New York from 1951.

On the North Atlantic routes the American airlines commenced flying from New York to Hurn with ex-USAAF DC-4 *Skymaster* airliners followed by L-049 *Constellation* aircraft when these became available in 1946. By this time London Airport (Heathrow) had been opened. BOAC began its own transatlantic service also using the *Constellation* on a route via Shannon (Ireland) and Gander (Newfoundland) where refuelling stops were necessary as the aircraft had insufficient range to fly non-stop. The journey took just under 26 hours. Later on, BOAC purchased some

Boeing 377 *Stratocruiser* aircraft having a 'double bubble' two deck pressurised fuselage. The *Stratocruiser* remained the flagship of the BOAC fleet until the Douglas DC-7C took over the route in 1957, closely followed by the Bristol *Britannia* 312 turboprop at the close of the decade.

On the longer routes to Africa, the Far East and Australia, which the *Constellation* took over in 1949, an entirely new design of airliner, the Handley Page *Hermes*, derived from the very successful *Halifax* bomber appeared in 1950. With tricycle undercarriage and a pressurised fuselage this was a marked advance on the Avro *York* which it replaced on routes to East and West Africa, the Middle East and the Indian subcontinent. This *Hermes* fleet was supplemented by the purchase of Canadian *Argonaut* aircraft, essentially a Douglas DC-4 with a pressurised fuselage and Rolls Royce *Merlin* engines. These also proved very successful. The Avro *York* fleet was sold on to some of the independent airlines for trooping and airfreight use, jobs for which they had initially been designed.



Figure 7. Lockheed *Constellation* and Canadair *Argonaut* aircraft at Luton airport.

In 1957 the Bristol *Britannia 102* turboprop airliner entered service on the South African route to Johannesburg, with stops at Rome, Khartoum and Nairobi, on a schedule of 23 hours. The *Constellation* fleet continued on the Australia route with overnight stops at Karachi and Singapore in a joint service with Qantas who operated the larger *Super Constellation*. In 1958 the *Britannia* fleet took over the service to Sydney, reducing the overall journey time considerably by omitting one of the overnight stops. Overnight stops remained a feature of the Australia route until the advent of jet airliners at the close of the 1950s.

The De Havilland *Comet* Interlude

Before leaving the BOAC services in the 1950s mention must be made of the De Havilland *Comet* aircraft. This pure jet entered service in 1953 on the London to Tokyo service, carrying first class passengers only. Although ten intermediate stops were required, the flight time was reduced by some 50 hours partly by eliminating the need for some overnight stops. Unfortunately, this early introduction to the jet age was premature: insufficient knowledge of the structural problems encountered with the cabin pressurisation needed to fly at higher altitudes resulted in structural failure. After two disastrous failures resulting in the loss of both aircraft, the *Comet* fleet was withdrawn in 1954 after just a year in service. This was a massive blow to the British aircraft industry as well as to the airline as, although the *Comet* design was to reappear later in the Mark III and the larger Mark IV configurations, the market had opened up to the designs from Boeing and Douglas which were to dominate the next two decades.

South American Routes

As previously noted, pre-war, no British airline had operated to South America on a regular basis. Early BSAAC flights from London via West Africa to Brazil, Argentina and Chile used Avro *Lancastrian* aircraft, a minimally modified version of the Avro *Lancaster* bomber. These were replaced by Avro *Tudor* airliners giving a marked improvement in passenger comfort. However, it soon became clear that traffic levels on these South American routes were insufficient to justify the existence of a separate operating corporation. At the end of 1949 BSAAC was merged with BOAC. Later

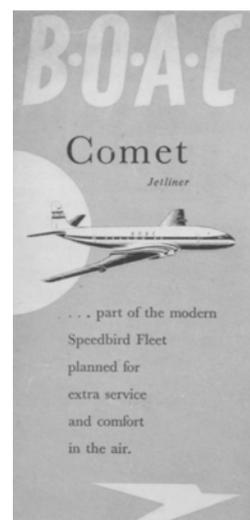


Figure 8. BOAC brochure for the *Comet* service.

BOAC found itself unable to provide the required services from within its own resources and handed the South American traffic to independent airlines. It was not until the later decades of the twentieth century that the privatised British Airways took over Adam Thomson's British Caledonian Airline and the national flag carrier was once again to be seen in South America.

One action of BSAAC in its days of independence was to order the giant Saunders Roe *Princess* flying boat, anticipating a growth in traffic which did not materialise. As BOAC had decided to abandon flying boat operations, it cancelled this order and only three aircraft were built. They never saw airline service and were scrapped in the late 1960s after years of storage.

European and Domestic Services

Immediately after the war, services on these routes were operated by RAF Transport Command using the pre-war Croydon airport as their base. BEA was initially constituted as a division of BOAC but in 1946 was formally established as a separate airline under the Civil Aviation Act of that year. Commencing operations with a fleet of ex-RAF *Dakota* aircraft, they began to receive Vickers *Viking* airliners which were a design derived from the successful *Wellington* bomber, and transferred their operations to RAF Northolt. In March 1949 their fleet consisted of 22 *Dakota*, 29 *Viking*, 45 De Havilland *Rapide* and 11 Junkers *JU-52* aircraft (the last mentioned were obtained as war reparations and were withdrawn as soon as more *Viking* aircraft were delivered). Although initial emphasis was placed on setting up a network of domestic services, routes were soon established providing regular services to most Western European capitals and larger cities. A number of secondary domestic routes were devolved to independent operators as BEA concentrated on the major European and domestic destinations, the route structure being extended to cover much of the Mediterranean area also.



Figure 9. Airspeed *Ambassador* used by BEA as their elegant 'Elizabethan' class of airliner.

In 1952, new aircraft became available in the shape of the Hampshire built Airspeed *Ambassador* which incorporated a pressurised fuselage and was to prove very popular on the twice daily London to Paris service. In 1953, comfort and speed on the principal European services was improved with the introduction of the Vickers *Viscount* turboprop airliner, initially on the London to Rome route. A fleet of 27 *Viscount 701* aircraft was purchased and this was later supplemented by 43 of the larger 800 series aircraft which became the mainstay of the BEA fleet for the next decade. The *Viscount* proved to be by far the best British design of airliner for short and medium haul routes and was purchased by several British independent operators as well as many foreign airlines world wide. Some remain in service to this day.

Internally the BEA route structure grew rapidly and a Scottish network was established based on Renfrew airport at Glasgow. Initially, *Dakota* and smaller aircraft which were capable of serving the more remote airfields such as those on the offshore islands, were used. For these routes the De Havilland *Heron* was introduced in 1955 displacing the elderly De Havilland *Rapide* fleet. By 1953, *Viking* aircraft were displacing the *Dakota* on services from Glasgow and Edinburgh to Manchester and Birmingham. Later in the same year, the new *Viscount 700* series were used on the prestigious London to both Glasgow and Edinburgh services. By 1956, *Viscount* aircraft had commenced operations to Aberdeen (Dyce) airport,

though it would be several years before regular direct flights from London to Aberdeen and Inverness would be inaugurated.

As the decade drew to a close BEA concentrated its services on London (Heathrow), Manchester, Belfast and the Scottish network, leaving the majority of other services to independent airlines which were developing rapidly and were also competing with BEA on some European routes. Some smaller airlines operated in conjunction with BEA, e.g. Channel Island Airlines and Cambrian Airlines. Principal among the independent airlines in the 1950s were British United Airlines, British Eagle International, Danair, Morton Air Services and Derby Airways (later to become the very successful British Midland airline). In general, these independent airlines operated aircraft bought second-hand from BEA and BOAC as well as other international airlines. They used them extensively on charter and troop flights, and later for tourism as well.



Figure 10. The Vickers *Viscount* was the most successful post-war British airliner.

Conclusions and Later Development

This, then, was the situation reached by British commercial aviation in 1960, a story of steady growth across the board. There had been considerable competition internationally. On the North Atlantic routes, Pan American and Trans World Airlines were operating regular services to many European destinations, and Trans Canada Airways also competed for this traffic. In Europe, the national flag carriers of all the Western European, and some of the Warsaw Pact, countries were regularly operating to destinations within Great Britain. With the exception of the Indian subcontinent, competition within Asia was developing only slowly, as was that in Africa, with the exception of South African Airlines. New airlines such as Cathay Pacific, based in Hong Kong, were started up and would later compete in the international airline market, extending their own spheres of operation and providing more serious competition in lucrative markets.

1960 effectively marked the start of the 'Jet Age' for commercial aviation, although in the closing years of the 1950s BOAC was already using the greatly re-designed *Comet IV* airliner on the North Atlantic route in competition with the Boeing 707 fleets of Pan American and Trans World Airlines. In Europe, Air France was operating its Sud Aviation *Caravelle* aircraft on many of its services and a Russian Tupolev 104 inaugurated regular Moscow to London services in 1959. Other Eastern bloc countries would soon be following suit. For the two British flag carrying airlines, the transition to jet aircraft was straightforward with the route structure already in place and the major airports geared up for jet operations.

The period from 1945 to 1960 saw many changes in the pattern of travel, with air taking an increasing share of the market, both internationally and domestically. While in the 1950s sea travel was still claiming a large share of passenger traffic, this would decrease rapidly through the 1960s and 1970s as liners on scheduled

services were replaced by cruise ships. Independent airlines working with the tourist industry commenced inclusive tourist charters as early as 1952. This proved to be a rapidly growing sector of the market during subsequent decades with certain airlines catering exclusively for the package holiday trade. Air freight which, except for mail, had been very much a secondary source of business for the airlines, showed a potential for expansion following the Berlin Airlift. However, it was some time before air freight became a major contributor to the airlines' revenue. By 1960, it represented a significant feature of airline business and often the older aircraft in their fleets were modified for the carriage of freight by strengthening the fuselage floor.

In the decades which followed, aircraft became much larger, much faster with the advent of jet engines and, later on, possessed a greater range. This last feature meant that on longer hauls, intermediate stops could be omitted so that overall journey times to more distant destinations were significantly reduced. In-flight entertainment on these longer flights has also become a priority for customer satisfaction, something not considered as realistic in the days of propeller driven aircraft.

In real terms the cost of air travel has steadily been reduced and, with the advent of the low-cost no-frills airline, air travel has finally lost its aura of elitism and has come within the reach of everyone. Steady technological progress has assisted in reducing the costs of operation through more efficient designs of aircraft, often tailored to the needs of a particular airline, and the greater use of information technology in aircraft scheduling and passenger handling. However, problems remain, not the least being the overall effect of aviation on our fragile environment, something not considered prior to the jet age. Work will be necessary to reduce noise levels and engine emissions in the years ahead, as long as man retains the desire to travel further, faster and more frequently.

Additional reading

Hudson, Kenneth & Pettifer, Julian, *Diamonds in the Sky*, The Bodley Head, 1979

Woodley, Charles, *The Golden Age of British Aviation*, Airline Publishing, 1992

APPENDIX: Principal types of aircraft operated by major British airlines, 1945-1960

Airspeed AS-57 Ambassador

This medium-range airliner was the last aircraft to be designed and built by this former Hampshire company before being taken over by De Havilland. It had a high wing configuration and pressurised fuselage, was powered by two Bristol *Centaurus* engines and carried 55 passengers. BEA operated a fleet of 20 aircraft from 1952 to 1958 on their European routes before disposing of them to independent operators who continued to use them into the 1960s.

Avro Lancastrian

A long-range airliner adapted from the *Lancaster* bomber with minimum modifications to increase the internal capacity of the fuselage, e.g. removal of gun turrets and bomb racks. Retaining the four Rolls Royce *Merlin* engines, it was used by both BOAC and BSAAC on Routes to Australia, Canada and South America. The aircraft were later converted to cargo operation and used in the Berlin Airlift.

Avro 685 York

This medium-range passenger and cargo airliner was built to an Air Ministry specification as a strategic transport for the RAF. It had many components (wings, engines, undercarriage etc) in common with the *Lancaster* bomber but had a high capacity fuselage on which the wings were mounted high up, and an extra central tail fin grafted onto the *Lancaster* tailplane. Initially used by both BOAC and BSAAC, the aircraft were soon sold on to independent operators for troop and cargo charters by airlines such as Danair.

Avro Tudor

Although derived from the *Lancaster* design, this aircraft was essentially a new development for civil airline operation. It had a capacity for 50 passengers in the *Tudor 1* and 80 in the 'stretched' *Tudor 2* version. Purchased by BSAAC, the design was rejected by BOAC and, after the airlines merged, the aircraft were sold on for use on economy and troop flights.

Boeing 377 Stratocruiser

A long-range airliner derived from the B29 *Superfortress* heavy bomber. Using the B29 wings and engines (four Pratt and Whitney *Wasp Major*), it featured a twin deck 'double bubble' design of pressurised fuselage. It was used by both BOAC and Pan American on their luxury trans-Atlantic services. Later on the BOAC aircraft were leased to Nigerian and Ghanaian Airlines and used on services to West Africa.

Bristol 175 Britannia

A revolutionary design of airliner with four Bristol *Proteus* turboprop engines, it had a capacity for up to 140 passengers. The series 100 aircraft were used by BOAC on routes to South Africa, the Far East and Australia, while the later, longer-range series 300 models were employed on the trans-Atlantic services from 1959. When displaced by pure jet aircraft in the 1960s they were sold on to Britannia Airways, British Eagle and BKS Air Transport. This type of aircraft was also supplied to RAF Transport Command for troop services.

Canadair C-4 Argonaut

This aircraft was derived from the Douglas DC-4 *Skymaster* but used a pressurised fuselage seating 56 and the four Pratt and Whitney *Twin Wasp* engines were replaced by Rolls Royce *Merlin* engines. Developed initially for Canadian Airlines as the *North Star*, the series 300 aircraft were purchased by BOAC for use on their African and Far East services. Later they were disposed of to independent airlines and used for charter flights.

De Havilland DH-89 Rapide

Developed from the pre-war De Havilland *Dragon*, this biplane was very popular with the smaller airlines as it could use grass airfields. It was also used extensively by BEA throughout the early 1950s on their Scottish and Channel Islands routes. With room for only 8 passengers, it was powered by two De Havilland *Gypsy Queen* engines. Examples can be seen in several aircraft museum collections.

De Havilland DH-106 Comet

The series 1 aircraft, powered by four De Havilland *Ghost* turbojet engines, were introduced by BOAC in 1953 and attracted considerable attention. Although carrying only 30 first class passengers, they cut journey times in half and were extremely popular. Unfortunately, the design proved to be ahead of its time and, following the loss of two aircraft due to structural failure, the aircraft were withdrawn in 1954 after only one year in service. In 1958, a greatly modified and enlarged version, the *Comet IV* was introduced by BOAC on the North Atlantic route. The capacity was increased to a maximum of 104 passengers and the power was provided by four Rolls Royce *Avon* engines. Later the type was used by BEA on its major European services and some were sold to Danair.

De Havilland DH-114 Heron

Derived from the smaller De Havilland *Dove* which, in turn, had succeeded the *Rapide*, this aircraft, powered by four De Havilland *Gypsy Queen* engines, was used extensively by BEA on their Scottish Highlands and Islands services. It had a capacity for 17 passengers. Other users of this aircraft included Jersey Airlines and Cambrian Airlines.

Douglas DC-3 Dakota

This aircraft was introduced in 1939 by United Airlines in America. It was adopted by the USAAF as the C-4Y tactical transport aircraft and used throughout the war. In all, over 10 000 were built and after the war many were converted for use by airlines all over the world, some remaining in service after 50 years! BEA started their post-war European services with a fleet of these aircraft which they called the *Pionair*. In airline service they accommodated 36 passengers and were fitted with two Pratt and Whitney *Twin Wasp* engines. Many were used as cargo aircraft in the Berlin airlift.

Douglas DC-4 Skymaster

Introduced during the war, this aircraft was widely used by the USAAF as a troop and cargo transport. After the war many were sold to the emerging airlines for both passenger and freight duties, though none was purchased by either BOAC or BEA. Equipped with four Pratt and Whitney *Twin Wasp* engines the aircraft had a capacity for up to 86 passengers. The cargo version was used extensively in the Berlin airlift.

Douglas DC-6

A logical development of the DC-4, this aircraft had a fully pressurised fuselage and was designed from the outset to meet the requirements of the world's major airlines, though once again none was purchased by either BOAC or BEA. It was however very popular with the larger British independent airlines who used both the DC-6A (cargo) and DC-6B (passenger) variants. Power was provided by four Pratt and Whitney *Double Wasp* engines. The DC-6B could accommodate 102 passengers.

Douglas DC-7C

This was the final development of Douglas's very successful series of propeller driven aircraft. It was designed to meet the requirements of longer-range services, in particular the non-stop trans-Atlantic services between New York and

London or Paris. A number were purchased by BOAC to replace their Boeing *Stratocruiser* airliners and it was also extensively used by Pan American and South African Airlines on their long haul flights. The aircraft was powered by four Wright *Turbo Cyclone* engines and, together with the Lockheed *Super Constellation*, represented the ultimate in piston-engined airliner design.

Handley Page HP-81 *Hermes*

This medium-range aircraft equipped with a pressurised fuselage, was designed by the team which had produced the *Halifax* bomber, with which it shared design features including the use of four Bristol *Hercules* engines. It was purchased by BOAC and used in the early 1950s in a 74 passenger configuration, on their African and Middle Eastern routes. They were sold on to independent airlines for use on trooping and tour charter work.

Lockheed L-049 *Constellation*

Designed during the war as an advanced military transport, this aircraft appeared after the war in civil use as a long-range airliner with a pressurised fuselage and a capacity for 81 passengers. Powered by four Wright *Cyclone* engines, it was extensively used by BOAC and many other airlines as the mainstay of their long haul services. Later derivatives were the L-1049 and L-1649 *Super Constellation* aircraft which had increased range and passenger capacity and were fitted with the more powerful Wright *Turbo Cyclone* engine. These larger aircraft were not purchased by BOAC who chose the Douglas DC-7C pending availability of the Bristol *Britannia* turboprop airliner. Many *Constellation* airliners were passed down to independent airlines for both passenger and cargo operations. An L-049 aircraft is in the Science Museum's outdoor collection at Wroughton (Swindon).

Short S-45 *Solent* flying boat

These medium-range unpressurised aircraft were the civil version of the *Seaford* maritime patrol aircraft used by RAF Coastal Command. They were developed from the very successful *Sunderland* (military) and *Empire* (civil) flying boats designed pre-war. The *Seaford* was powered by four Bristol *Hercules* engines and could carry 36 passengers in relative luxury. Used by BOAC to initiate their post-war services to South Africa, the Far East and Australia until 1950, they were subsequently sold to Aquila Airways who operated them on services from Southampton to holiday destinations in the Mediterranean, Lisbon, Madeira and the Canary Islands, finally withdrawing them in 1958. A restored example can be seen in the Southampton Hall of Aviation.

Vickers *Viking*

Using the wings, engines and other components of the famous *Wellington* bomber, Vickers produced this 36 seat unpressurised aircraft to meet the immediate post-war needs of BEA to supplement their fleet of converted DC-3s. This type enabled BEA to run its services until more advanced designs became available, when the aircraft were sold on to independent operators. A military version known as the *Varsity* was supplied to the RAF, a preserved example of which may be seen in the Brooklands aviation collection at Weybridge.

Vickers *Viscount*

Undoubtedly the most successful British design of civil aircraft, this turboprop airliner became the mainstay of the BEA fleet from 1953 to the advent of pure jet aircraft in the middle 1960s. It was used on all European and many domestic services, in some cases until the early 1970s. Both series 700 and 800 aircraft had fully pressurised fuselages and were powered by four Rolls Royce *Dart* engines. The series 800 aircraft could accommodate 71 passengers and were ideal for short and medium range services. The *Viscount* was purchased by very many other airlines, both in Great Britain and abroad, where it was used extensively and some examples remain in service today. Preserved examples may be found in several aviation museums.

The Story of Southbourne and its Pier

Jeff Pain

The majority of people, even those living in Southbourne will react to this title by saying “what pier?” followed by a quick check to see if this is the 1st April issue. However, there was a pier, though it was short lived. The bare facts are that it was built in 1888, damaged by a storm on 28th December 1900, further damaged on 3rd January 1901, then it remained unusable and dangerous as a wreck until finally demolished in 1907. There is more to be told as this modest structure was part of one man’s grand scheme to develop a new Spa town to rival the then rapidly developing Bournemouth.

Going back into history, the Romans established themselves in Poole harbour and the Saxons founded Christchurch (their Twynham) with settlements along the river Stour, those at Wick, Tuckton & Iford being on the fringe of modern Southbourne. With the coming of the Normans the town of Christchurch acquired a castle and a church. In the twelfth century, the ford at Iford was supplemented by a bridge to improve connections to the west, in those days, to modern Poole and Dorchester.

The town of Bournemouth developed rapidly from about 1850 to become, some one hundred years later, one of the country’s premier seaside resorts on a south facing bay with a mainly sandy beach some eight miles long, from Hengistbury Head in the east to Sandbanks, at the entrance to Poole Harbour, in the west. There have been three piers in the bay. Bournemouth’s first pier was built in 1861. It was followed by piers at Southbourne in



Figure 11. Anonymous photographic card published c. 1905 and also used in the *Bournemouth History*, being credited to W. O. Saul c. 1894. This shows the pier as built with the ‘D’ shaped abutment against the promenade and the minimal facilities provided.

1888 and Boscombe in 1889 in their attempts to compete with their larger neighbour. Although the structure of Boscombe pier has survived with some rebuilding (though it is not open at present), it remains in the shadow of later and larger structures at Bournemouth. Southbourne was not so lucky.

Traditionally Bournemouth finished at the Hampshire-Dorset boundary, with the last three miles or so of the bay in Poole. However, in the County boundary adjustments of a few years ago, a coastal strip to the east, including Bournemouth, Boscombe, Christchurch and Highcliffe was transferred to Dorset.

Before 1870 much of what is now generally called Southbourne, with the exception of the hamlet of Pokesdown, consisted of open heathland which sloped down away from the cliffs in a north-easterly direction towards the river Stour. There were a few large houses in the west, Stourcliffe House in the north, with Tuckton and Wick farms to the east. A large part of this land formed the Stourcliffe estate owned in the mid nineteenth century by a Mr. Wadham Locke who, from about 1860, gradually began selling most of it. Development was just waiting for the right entrepreneur to appear.

In 1870 along came that man, Dr. Thomas Armatrading Compton, who had been in medical practice in Bournemouth since 1866. Dr. Compton bought some 230 acres along the cliff top from the present Clifton Road to beyond the future site of the Coastguard Cottages, extending inland for about a quarter of a mile and including a strip down to the river at Tuckton. He had the intention of establishing a new health resort and residential district which he decided to name South Bourne. To this land he added Cellars Farm at the eastern end in 1875.

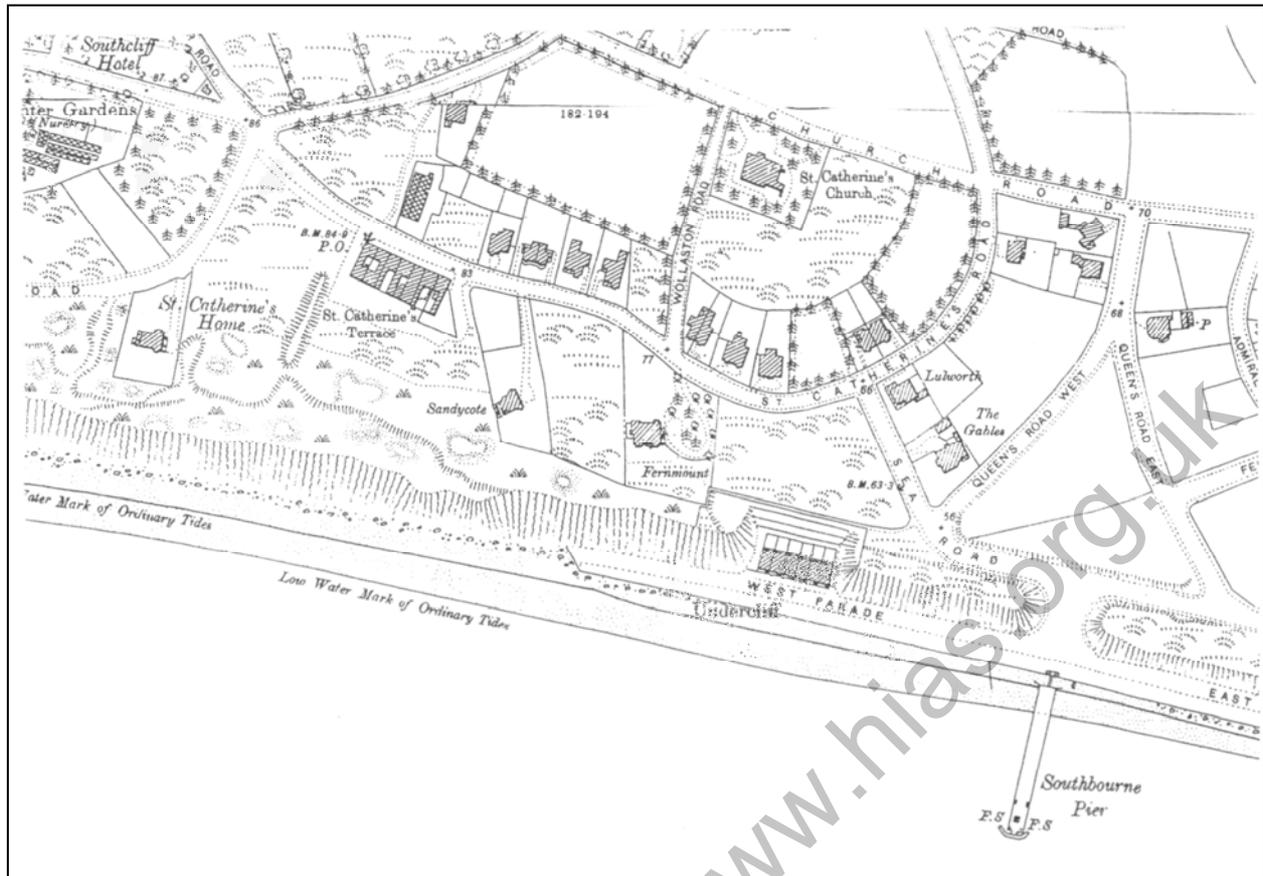


Figure 12. Ordnance Survey of 1898 showing the main features mentioned in the text and illustrations. The road layout today is similar, though the Southbourne coast road runs across the centre through the sites of 'Fernmount', 'Sandycote' and 'St. Catherine's Home', the cliff having eroded before the current promenade was built. Queens Road East and West are now Warren Edge Road East and West.

In 1858 the Admiralty had leased an acre or so at the eastern end of what became Dr. Compton's land for the purpose of establishing a Coastguard Station to replace the then existing one at Hengistbury Head. It was not until 1872 that a Watch Room, an Officer's House, a terrace of eight cottages and various outbuildings were erected, most of which can still be seen to-day.

However, back to the main story, in 1871 after completion of the main land purchase, the first of several companies was launched: "The South Bourne Winter and Summer Gardens Company Limited", the promoters being Dr. Compton, the Rev. F. Hoskins (Vicar of Holdenhurst) and seven other local gentlemen. The capital of the company was to be £2000 in shares of £5 each. The site chosen was near the present Bolton Road with the land being bought from Dr. Compton for £200 which he took in shares. In addition he also invested £100. The company was to erect a 'Winter Garden' in the form of a large glass building 323 ft (99 m) long by 43 ft (13 m) wide which was fortuitously available second-hand from the estate of the late Thomas Asherton-Smith of Tadworth House near Andover, some 40 miles distant. Although the purchase cost was modest, transport and re-erection came to £1200. It was opened to the public in 1874.

To provide access to the Winter Gardens the company arranged for the construction of Belle View Road, almost a mile long, to provide the principal access to the estate. To-day, it remains the main through road in the district. While construction was going on, the company advertised a land sale in 1871 as 'Numerous eligible building sites, charmingly situate, commanding fine marine and land scenery and close to the proposed Winter and Summer gardens'. Though this did not start an immediate building rush, it was the spur for the construction of several large houses.

In 1881 Dr. Compton formed the Tuckton Bridge Company to build a direct link to Christchurch from Southbourne. Tom Stevens of Bournemouth designed a wooden structure on which work commenced in June 1882, and was completed in the following May at a cost of £4000. With tolls of sixpence for four-

wheeled vehicles, four pence for two-wheeled vehicles and bicycles, perambulators at a half penny and pedestrians and passengers paying one penny each, this was a very successful venture with a dividend of 5% in the first year and never falling below this figure subsequently. Completing this story, Bournemouth Corporation bought the bridge in 1904 and rebuilt it to carry their electric tram service to Christchurch, though it remained a toll bridge (including tram and later trolleybus passengers) until 1st October 1943.

At this stage, Dr. Compton was finding difficulty balancing his medical commitments with his business ambitions, so in 1882 the “Southbourne on Sea Freehold Land Company Limited” was floated to purchase and develop the potential of the estate. The company had a capital of £60 000 in shares of £10 each. There were 10 directors under the chairmanship of a William Stevenson, this body including three doctors (one being Dr. Compton), an MP, an Hon, a General and a Colonel.

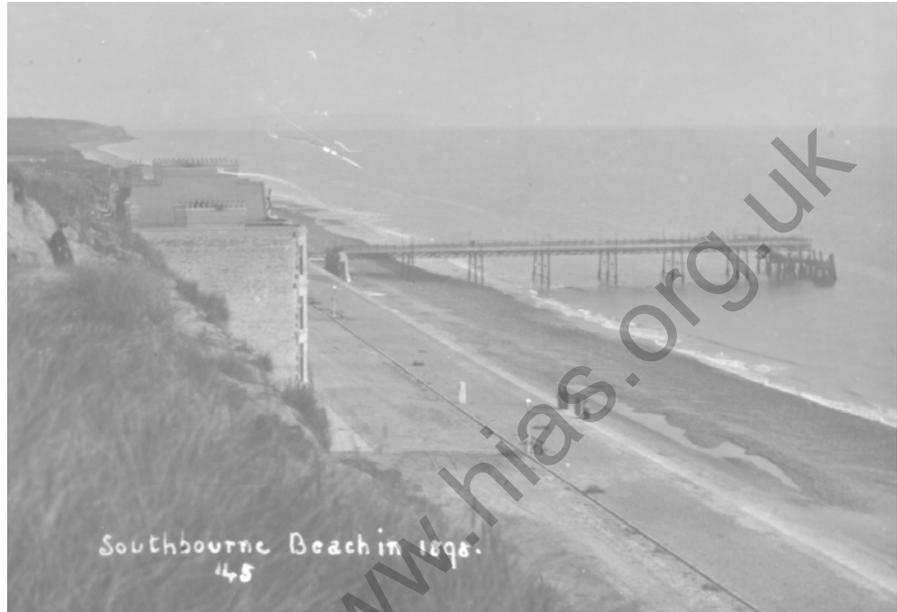


Figure 13. One of an anonymous series with dates that are suspect. The scene is before the storms as the promenade appears undamaged, though the ‘D’ shaped abutment has gone and access to the pier is via a narrow gangway.

The company prospectus stated that water supplies were available and gas mains had been laid, a telegraph office was open and two postal deliveries were in operation per day. Other attractions included the Winter Gardens and a recently opened hotel. The company purchased some 140 acres at £321 per acre from Dr. Compton and he undertook to take just under half in shares to the value of £20 000, the remaining capital to be allocated to the development of the undercliff promenade along with the pier.

Over the years various lots came onto the market, for example, on 27th November 1882, 34 plots of land were offered at prices between £90 and £280. These were non-contiguous plots as Dr. Compton had previously disposed of some lots. However, there were restrictions: all houses were to be detached or semi-detached with values between £500 and £700, none was to be used as a shop or for trade, and nothing was to cause disturbance or annoyance to any house on the estate. Later on 11th April 1894, 32 plots split into two categories came on the market; 17 plots near the Admiralty Buildings were for good class marine villa residences while the remainder could be used for business or terraced buildings.



Figure 14. The same series as Figure 13 but taken from the pier after the storm. The houses are intact, but probably vacant, and the promenade wall has partially collapsed.

The main works were the development of the undercliff projects. Tenders for the esplanade or promenade were received in 1883 of between £10 000 and £23 000, though in the event the company elected to do the work themselves, employing direct labour under the supervision of Mr. Archibald Smith who was appointed engineer for the project. The works commenced in September 1883 and were completed in two years. As constructed, the promenade consisted of a roadway with a curved surface 40 ft (12 m) wide with a pedestrian walkway 16 ft (5 m) wide on the seaward side. It was approximately one third of a mile (0.5 km) long and at the centre, facing the approach from the cliff top, was a semi-circular projection to form the shore base for the pier. The sea wall was some 8 ft (3 m) above beach level with the foundations some 6 to 9 ft below, the base being 7 ft (2 m) thick tapering to 4 ft (1.3 m) at the top. All of this work, including the access road, cost about £15 000. The promenade was declared open by the local MP, Mr. Horace Davey, on Thursday 24th December 1885, being celebrated with a luncheon and a regatta.



Figure 15. Harvey Barton of Bristol card postally used in 1910. The houses are now demolished but the foundations remain. Note the erosion of the promenade behind the sea wall. Most of the pier is still standing.

With the undercliff drive complete, Southbourne was several years ahead of Bournemouth and Boscombe and to take advantage of this situation further development was considered. To raise the capital, a mortgage was obtained to cover construction of six large terraced houses on the promenade. This required removal of material from the cliff face to make a recess with near vertical sides which had to be retained by a wall. It was intended that housing should be installed along the whole length of the promenade, but only these first six were completed. Presumably to promote confidence in the scheme Dr. Compton took up residence in Number 4.

After the promenade came the pier. At a meeting in October 1884, a Mr. McEwan Brown, an Estate Agent from Boscombe, proposed the building of a pier to complement existing and projected facilities. He added that during the last year and a half 100 plots of land had been sold. Nearly fifty houses and a terrace of seven shops had been built in the last two or three years. A pier of some 600 ft (180 m) in length was suggested and



Figure 16. The same series as Figure 13. After the storm showing the damaged sea wall and the pier.

Mr. A. Smith estimated a probable cost of £10 000. Dr. Compton advised it should be strongly built as the sea could be very rough! Mr. Stevenson, Chairman of the Land Company, was generally in favour but was unable to offer any financial assistance, so a committee was nominated to form a Pier Company, having a capital of £8000 in £5 shares.

The Company Solicitors gave notice on 8th November 1884 that an application to the Board of Trade was being made for powers to construct and maintain a pier, with a length of

800 ft (240 m), into the sea at a point 4000 yd (3.7 km) east of a stream known as Boscombe Mouth, together with landing stages, toll houses, roads, footpaths, and to erect on or near the pier, a pavilion, assembly rooms, shops etc. This scheme was, of course, way beyond their existing capital resources but presumably they had great hopes for the future and Board of Trade approval could no doubt assist in raising additional funds.

Approval was obtained in March 1885 and plans submitted by Mr. Archibald Smith gave rise to an iron structure on iron piles driven into the sand and clay. Mr. Howell, a contractor from Poole, was entrusted with the work and as built, it was 300 ft (90 m) long and 30 ft (9 m) wide with the decking 17 ft (5.2 m) above high water mark. Facilities on the pier were minimal to say the least. The opening took place on the 2nd August 1888 without

ceremony and about 1200 people went through the turnstiles on the day. It had been hoped that a regular steamer service would be provided between Bournemouth pier and that at Southbourne. On the morning of the opening day, the paddle steamer *Lord Elgin* made a round trip from Bournemouth with return fares of 1/- first class and 9d second class. However, the Captain refused to complete the expected afternoon trip as the sea had turned too rough and following this, it appears that the Steamship Company were not prepared to establish a regular service. However it seems that someone was prepared to try and establish a service as a vessel called *Nelson* was engaged and arrived in the district on 12th September but, after two days, it left, presumably for whence it came. Though it is probable the pier saw some excursion traffic this would only have been seasonable and prone to weather and tide conditions.

So the pier began its short life with no improvements. In the 1890s, the only change visible from photographic and map evidence is the disappearance of the half circle abutment against the promenade and its replacement by a narrow 'gang plank' for access. Its facilities remained minimal. It was lit, had two flag poles, a boat on davits for emergencies, and what appear to be two very small shelters at the seaward end together with two gazebos to offer protection to the staff collecting tolls.



Figure 17. Surrey flying Services No. 1263 postally used 1926. Looking north west from where the pier was, it shows the site of the terrace lower centre, 'Fernmount' left of centre with 'Lulworth' and the church visible on the right amongst later developments.



Figure 18. E. Stevens, Camp Photographer, Poole. The Paddle Steamer *Lord Elgin* at sea in passenger service. The name appears to have been crudely obliterated on the bow. However, other cards captioned *Lord Elgin* have exactly similar marks on both port and starboard sides.

Bright's 'Guide to Bournemouth, 1891' describes 'Southbourne-on-Sea' thus:

Situate towards the eastern extremity of the Bournemouth Bay, with full southern exposure and lying about a mile beyond the eastern limit of the Bournemouth Commissioners' District, Southbourne is distant some three and a half miles from the centre part of Bournemouth. It is also one and a half miles from the picturesque old town of Christchurch, which lies in the valley immediately below it. Southbourne is easily reached from Bournemouth by an omnibus running several times daily from the Square at a one shilling fare there and back, or by train to Christchurch Station from which the distance via Tuckton Bridge, is about a mile.

The rapid progress of Southbourne may be judged that whereas some fourteen years ago it had neither a name nor a road, much less a house, it now possesses a handsome church, a large hotel, numerous private residences and lodging houses, shops, Post and Telegraph offices, a valuable Chalybeate Spring and last, but not least, a magnificent undercliff esplanade and Sea Wall, to which a well-designed pier is now attached.

The advantages in winter, to invalids and others, of locomotion on a perfectly level esplanade in a charming position, well sheltered from northerly winds, but commanding lovely views, extending from the Solent and Isle of Wight in the east, to Swanage Bay and the Purbeck Hills on the west, is becoming much appreciated, whilst the close proximity of the sea cannot fail to make the esplanade houses very popular domiciles for visitors during the bathing season.

Southbourne-on-Sea may well feel proud of possessing this fine esplanade, the first undercliff promenade in Bournemouth Bay and at present the only one.

However, nature decided the pier's future. Two severe gales in quick succession, the first on 28th December 1900 damaged the pier and breached the sea wall, the second storm on 3rd January 1901 aggravated the damage. The pier was considered beyond repair and although the promenade was recoverable, the position of the houses was not. Recovery was largely academic as the Land Company did not have the funds to undertake rehabilitation and further damage in 1902 led to the final abandonment of the undercliff parade.



Figure 19. J. Salmon Ltd. Between the wars the retaining wall behind the demolished promenade houses was terraced and occupied by beach huts in this late 1930s view. Remains of the sea wall are visible in the surf.

Local Government developments over the period of the late 1890s led to the Parish Council agonising over the condition of roads, sanitation, drainage etc. There were proposals to amalgamate with neighbours Pokesdown (which had better sanitation) or Christchurch and, although Pokesdown emerged as favourite, other factors took a hand. Bournemouth became a County Borough on 1st April 1900 and quickly opened negotiations with Winton, Pokesdown and Southbourne to be incorporated in the new Borough. This came to pass

on 1st November 1901 with Pokesdown and Southbourne being joined to become the Southbourne Ward of Bournemouth.

Sources

Bournemouth libraries *Heritage Zone*
 Bournemouth Local Studies publications Nos. 688, 695, 706 & 737
 T. A. Compton, *Southbourne's Infancy*
 Ordnance Survey maps of the area
 D. S. Young, *The Story of Bournemouth*,

Appendices

(1) The Paddle Steamer *Lord Elgin*

Built 1876 by Richardson Duck of Stockton. 230 tons, length 160 ft. beam 20 ft, draught 6.8 ft.

Machinery: Compound diagonal steam engines, cylinders 22 in and 42 in diameter x 42 in stroke, 75 hp.

Nominal Speed 12 Knots.

Built for the 'Galloway Saloon Steam Packet Co.' of Leith for service on the Firth of Forth. Sold 1881 to the 'Bournemouth, Swanage and Poole Steam Packet Co.' In 1909 this company was taken over by the grandly named 'Southampton, Isle of Wight and South of England Royal Mail Steam Packet Company Limited' (later known as *Red Funnel*) who, in 1911, removed the saloon and passenger accommodation to convert her for cargo work, adding a 3 ton capacity derrick. Until 1955 she dutifully plodded between Southampton and Cowes, Isle of Wight, the only light relief being occasional use between the wars to carry cars in the days before the passenger boats had this facility.

(2) The Paddle Steamer *Nelson*

Whilst confirmation is lacking, the most likely candidate is a vessel built by W. Allsup & Son of Preston in 1875. The same company supplied new boilers in 1884. 166 gross tons, length 140 ft, beam 19.8 ft, draught 9 ft. Machinery: Two cylinder simple steam engine, cylinders 30 in diameter x 40 in stroke, 80 hp.

Originally based in Blackpool, followed by four years at Newport and Cardiff, by 1887 she was owned by the Plymouth Pier Co. from whom she was chartered in 1887/8 by a Hastings syndicate. In 1890 she was bought by a J. Collard of Newhaven. Still registered at Plymouth, her owners in 1892-4 were the Alexandra Towing Co. of Liverpool and from June 1894 T. H. Williams of Manchester. However it appears both of these owners hired her back to the previous owner, J. Collard, until after the 1897 season when she disappears from operation on the Sussex coast, and indeed from any records I have found.

(3) Dr. T. A. Compton, BA, MD, MRCS, LRCP

Born in Sussex in 1838, he entered Corpus Christi College, Cambridge in 1856, gaining a BA in 1860. He went to Dublin for medical studies, qualifying as MB in 1865 and MD a year later at St. Bartholomew's Hospital in London. Whilst at Cambridge he spent some time in the Christchurch area which no doubt influenced his choice of where to set up in practice.

Once qualified he opened a surgery in Bournemouth at 177 Old Christchurch Road, residing at "Holmwood", 18 Christchurch Road. As a founder member of the Bournemouth Meteorological Society he took weather observations from 1867 to 1885 as an honorary observer, sending copies of the information to Kew and Greenwich. Also he gave time to various charities, one of which was being honorary physician to the Bournemouth Home for Invalid Ladies and to the Provident Infirmary. Finally, in his early days he was signed up to the Christchurch local Volunteer Corps.

With the development of his interest in Southbourne, in 1875 he moved into "Clarenzia" becoming the first resident on the estate. The next year he transferred to "Locksley" (later renamed "Grassendale") in

St Catherine's Road. When the undercliff houses were built he moved into Number 4. Dr. Compton left the area in 1892 for Teignmouth, Devon. In spite of moving away Dr. Compton retained his shares in the Land Company until its failure in 1901. The unsold land and the hotel went under the hammer in London on the 10th June 1901 and as a result the shareholders were paid out at nine shillings in the pound, which represented a considerable loss for Dr. Compton whose holding was £20 000. He returned to the area in 1920 and died at Parkstone, aged 87, on the 2nd May 1925.



Figure 20. Russell & Co. Southampton. The South Cliff Hotel was originally intended as town houses but were converted to a hotel. In the post 1945 period it was used as rented holiday flats, now demolished and replaced by modern flats.

(4) An Event at the Pier

In Dr. Compton's reminiscences he relates an occasion (without giving a date) when the Duke and Duchess of Connaught, having accepted an invitation to Highcliffe Castle, arrived at Southbourne pier unexpectedly in their yacht on a Whit Monday. No carriage having been sent to meet them, the only vehicle to be obtained in consequence of the holiday, was an old one-horse bus. With the destination boards on the sides removed, their Royal Highnesses departed via Tuckton Bridge where the toll keeper thought for a while he had been done, as after handing over a half sovereign the bus took off without waiting for change. At Highcliffe Castle the waiting crowds cheered every smart looking carriage but took no notice of a scruffy bus. Unfortunately further details are missing and one wonders that the pier was used in this manner.

Figure 21. Anonymous card postally used (date illegible but King George V. 1d stamp).

The card shows Southbourne beach with the remains of the sea wall in the foreground. The remains of the beach steps up to the promenade were originally just to the east of the pier (see map). By this time, all the sand fill behind the sea wall to support the promenade has been washed away.



Looking at today's maps little can be seen of Dr. Compton's Southbourne. The roads and some of the buildings can be identified. The cliff face has receded and is now offshore!



Figure 22. All that remains today.

This 2003 photograph says it all.