



FOUR ENGINES FOR SECURITY

FEBRUARY 1936 · NO 2 · VOL 8

IMPERIAL AIRWAYS GAZETTE



SOME SIDELIGHTS ON A GREAT ORGANIZATION

THE CHARTING SYSTEM IN AIR LINE OPERATION

We reprint with acknowledgment to *The Aeroplane* an article which appeared recently in that paper on the methods used to chart the services of Imperial Airways. We feel sure this will be of interest to readers of the *Gazette* and that they will gain some valuable insight into the planning of air services.

'Surprisingly few air-transport people have discovered the system of charting aeroplane schedules which Imperial Airways uses in planning new services and as a week-to-week record of their existing air lines. There is nothing new about the method as applied to regular services in all forms of transport, but Imperial Airways was undoubtedly the first to adapt it to air-line purposes. . . .

'For a new service the first thing to get out is the timetable, which depends entirely on the cruising speed and the proportion of the 24 hours available for flying, which again depends on ground organization. But there are preliminaries. Imperial Airways does not like to have different timetables for Summer and Winter, and the alternative is a compromised schedule which is harder to keep to in Winter. They have to allow for all weathers, but not to allow too much, as otherwise in fair weather passengers would be put down at a night halt at 14.00 hours, which, although it might delight some of them, would almost certainly annoy the majority.

'On an East—West service the schedules might be different outward from homeward owing to the change in longitude and therefore in local time. But it so happens that the five hours which they lose in longitude travelling from London to Calcutta is partly made up by a prevailing west wind. From a mail and passenger point of view, to take the same number of days outward and homeward, winter and summer, is preferable; but it is not easy for the operator, especially as the wind factor is quite severe, particularly in summer.

'From Cyprus to Gwadar the wind is steadily against the homeward machine. Over the Syrian Desert it blows from the west, down the Euphrates to Basra and Bahrein and half-way across to Sharjah it is north-westerly, and then all along the Makran coast to Gwadar in summer it is westerly and averages something like 20 m.p.h. That makes a difference of 40 m.p.h. between outward and homeward ground speeds, which, with cruising speeds of 100 m.p.h., is serious.

'Another thing which has to be decided is whether there shall be any scheduled night flying or not. This depends on the ground organization. Imperial Airways does not at present schedule any all-night flying, as they consider that it is unfair on passengers to ask them to sit in chairs all night. When sleeping berths can be provided, all-night flying will become a practical way of cutting down the time taken between termini. So at present scheduled night flying is confined to take-offs before dawn and landings after dark.

'Having decided the number of days needed for the overall journey the next step is to settle the days of the week on which the service will run. For Imperial Airways the mail is the first consideration; both they and the Post Office detest nothing more than changing the day of departure once it has been settled.

'Their policy of solidity seems to pursue them relentlessly. They know that such changes upset business houses. Saturday suited the Post Office and everybody as the day for the Indian service to leave Croydon. And as both African and Eastern services go through Egypt they naturally chose Wednesday for the service leaving for the Cape. This worked out conveniently when they came to double the frequency and run four services weekly each way through Egypt.

'The journey time being known fixes the time of arrival at the outer end, which brings us to the charting stage—and to Figure 1, which is a typical operations chart.

'The days of the week are marked along the top of the chart, the divisions between the vertical columns representing the nights; all the halting places are marked down the side. Outward journeys for four or five weeks, to the provisionally agreed timetable, are laid down on the chart, with a sloping line to show the passage of time and miles of the moving machine, and a horizontal line to show the passage of time only where the machine is standing still.

'Figure 1 represents a weekly service from place A to place K, leaving A on Sundays. This route is shown divided into three sections, each section worked by a different group of machines. For example, in Section 1 flying-boats might be used, in Section 2 large landplanes and in Section 3 smaller landplanes. The various stopping places down the side are not necessarily the same distance apart; in Figure 1 the whole of Monday is taken to go from C to D, whereas from D to G is flown on the following day. For this purpose an exact graph of hours and miles is not necessary.

'Fixing the timetable and choosing the starting day means that the outward service reaches K on Friday evenings. We will suppose that place K is not the centre of a large mail area so that three days is enough for answering letters, even though two of the days happen to be in the week-end. This would suggest a departure homebound from K on Tuesday mornings as shown by a dotted line.

OVERLAPPING THE NIGHT STOPS

'But the effect of this is immediately seen; two services will spend Wednesday night at H. Now let us suppose that H is out in the blue, and possesses a resthouse built to accommodate only one service at a time.

'A night stop of both services there on the same night must be avoided, and the departure day from K has therefore to be altered, say, till Wednesday mornings, as shown in the full lines, which gives K a day longer to answer letters and avoids the trouble at H. And it gives a cross in the services at another night stop, C.

'This place C represents a large town which has several hotels, so two services can be accommodated there without difficulty. Putting back the departure from K to Wednesday has an additional advantage in that it gives G—a place of importance—three days to answer letters instead of two.

'A further disadvantage of the dotted homebound schedule, overcome by moving it forward a day, can be seen if the various sections of the route are considered separately. In Section 1, the outwardbound schedule and the dotted homebound schedule both travel between A and C on Sundays, which calls for at least two machines to work the section. By delaying the homebound schedule a day, the Section 1 flying-boat, which takes out the service to C on Sundays, can return with the homebound load on Mondays, and one flying-boat is enough. As Imperial Airways always provides at least one more machine than the minimum required by the schedule, Section 1 will be given two, whereas it would need three if the dotted schedule were used.

'In Section 2, the services could clearly be operated by one large landplane under either condition, if we suppose that the base is at G. It would leave G on Saturday mornings, reach C on Sunday evenings, returning to D on Mondays and to G on Tuesdays, and would be ready to start off again on the following Saturday. As the minimum needed is one, two would be provided.

'In Section 3, there is a cross in the services between H and I, which tells one at once that at least two aircraft are necessary, and at least three would be provided.

'In actual practice the homebound schedules are first plotted on transparent paper and this is laid over the chart of outward journeys. Instantly it shows where the machines will cross.

'If we remember rightly Imperial Airways had to avoid crossings at night stops like Malakal, Juba, Dodoma, Mbeya and Mpika. By moving one over the other one can try the effect of starting on each day of the week in turn and can readily select the best. Already the chart has saved a great deal of mental arithmetic.

'After the operating chart has been worked out to suit the mails and the night stops, each section is plotted individually on a chart called "rotation of aircraft." This does not mean compass swinging but merely the working schedule of the machines operated from each base.

'On this the individual aeroplanes are shown in different colours and their movements checked to see that they have sufficient time at their base for maintenance and overhaul. This checking must be done to see that all is as it should be, not only when the services are running to schedule, but also when one or more is running out of schedule due to delay down the line somewhere.

'The rotation chart shows at once what the effect of delay will be, and the motto is that delay in one service shall not affect the regularity of another. Looking back to Figure 1, this

means that the machine bringing the service from D to C on Sundays must not be scheduled to take the outwardbound service from C to D on Mondays. If it were scheduled to do this and were delayed on its homebound trip, it would not be ready to take the outbound on Mondays.

'Different colours on a rotation chart are not always necessary. Provided that each machine performs the same series of services as the one before it, to show the movement of one is enough.

'To work out these schedules is no easy matter and without the charting system it would be next to impossible for anyone except a gifted memorist, or a mathematician, or a Government servant.

'Figure 2 shows a simple "aircraft rotation" chart. In this chart two routes are imagined to branch at the point G and to be operated by the same group of aeroplanes based at G. The services to be operated are shown by the thin lines, and from G to K they are the same as in Figure 1, running to a weekly schedule. But from G to M the services are twice weekly.

'The movements of one machine are indicated by the thick line, which also shows the time available at G for maintenance and repair. The pattern of the black line on the chart starts to repeat on the fourth Wednesday and would continue indefinitely as far as the chart was continued. Other machines would follow the same pattern and leave G for K on the second and third Wednesdays respectively, showing at a glance that three is the minimum number of aeroplanes needed to run the services.

'Besides the normal rotation charts, others are prepared to represent emergency working, so that if for any reason one or more aircraft of a group go out of action, the rotation of the remainder is known beforehand and can be adjusted to the new situation with a minimum of delay.

'Schedule and rotation charts in their final form are completed, with figures to show the distances between stopping places. With this information available, the annual mileage per aeroplane can be worked out immediately, and, knowing the average cruising speed, the number of flying hours per machine can be quickly got.

'Imperial Airways does not allow their chief pilots to fly more than 125 hours in 30 consecutive days, so if a chart shows that each machine is doing more than this then more than one pilot per machine will be needed. Different limits apply to first officers, radio operators, or flying mechanics. If necessary separate charts can be made out to show the duty schedules of individual pilots, and other charts for other members of the crew.

THE CONCENTRATED RECORD

'Quite apart from planning services the charts are used as records, and a chart for a complete month is laid proudly before the high officers of the company to show unmistakably and at a glance to what extent the services have been flown to schedule; and how, if a machine has been delayed here or there, the time has been made up in the later stages of the journey.

'Figure 3 is a reproduction of the actual chart for the Indian route during June 1935. There are several points of interest in it. The shaded portions indicate delays, and the symbols show the reasons for the delays. In the actual chart the services are marked in colours which show which individual machine operated each service. The time of arrival and departure at each place are also put in, but these and the colours have been left out in our reproduction for the sake of simplicity.

'As each service is operated it is marked on the chart in its appropriate colouring over the pencil lines originally put there to show the schedule. If a delay occurs the aeroplane's movement line will diverge from the pencilled schedule. The shaded area between the two therefore shows the extent of the delay. In this particular month there are four delays due to the weather, two of which prevented the eastbound service from reaching Bangkok on schedule. The schedule of the two last eastbound services is seen to be different from the rest. The reason is that they were the first two to run to the south-west monsoon schedule.

'When the south-west monsoon is blowing, the mountains between Rangoon and Bangkok are covered with cloud for a considerable part of the day, but are usually passable in the morning. Monsoon schedule, therefore, provides for an eastbound night stop at Rangoon and a westbound night stop at Bangkok, so that both services cross the mountains in the early morning.

'The need for this change in schedule is clearly shown by the

Chart of Schedule for Entire Route

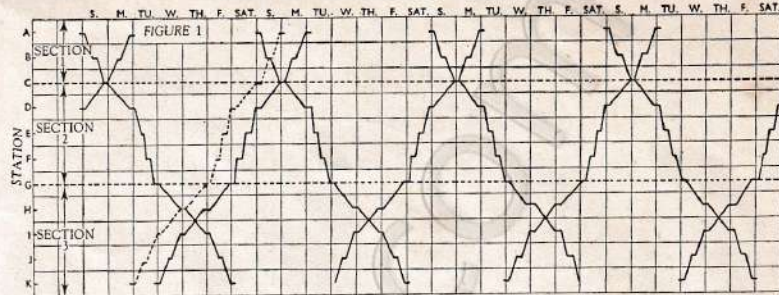
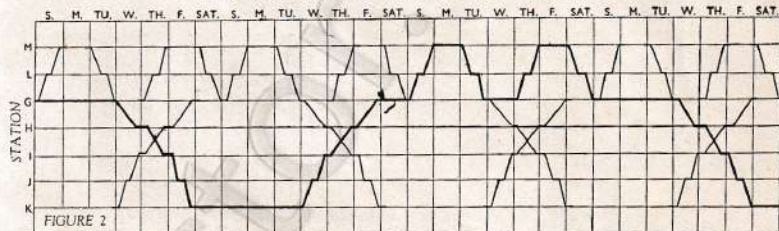
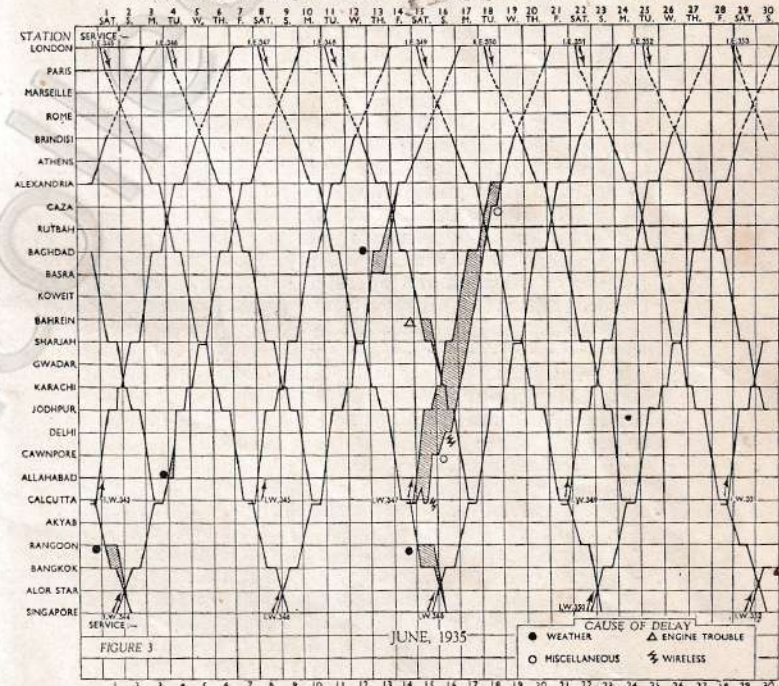


Chart of Schedule for One Division



Record Chart Imperial Airways, London—Singapore, June, 1935



two delays due to weather on the first and third eastbound services in the month.

'One might ask why, if a night stop at Rangoon is a good thing during the monsoon, it is not adopted as standard throughout the year. The answer is that Bangkok is almost exactly halfway between Calcutta and Singapore, and so a night stop there equalizes the flying between the two days.

'The delay to the Indian westbound service (I.W.347), which was due to leave Calcutta on the 15th, is interesting. The machine duly left to schedule for Allahabad but returned to Calcutta with trouble in the wireless set. Imperial Airways does not allow their machines to fly unless the wireless set is working properly.

'Putting the set right took till the morning of the 16th, and the machine set off again with a day's delay to make up. At Cawnpore it was again delayed—this time for miscellaneous reasons (anything from a passenger not being present or an incorrect passport to the machine being bogged while taxi-ing), and it only reached Delhi that night, where it again had trouble with the wireless set. As the scheduled night stop is Jodhpur, the service was a day and a stage behind on the morning of the 17th.

'The aeroplane (an Armstrong Whitworth *Atalanta*) took off early on the 17th and reached Karachi at 09.30 local time.



IMPERIAL AIRWAYS GAZETTE

The *Imperial Airways Gazette* is published every month for the information of the Agents of the Company and for others who are interested in air transport. A copy will be sent free of charge every month to any *bona fide* applicant from the Publicity Manager's Office, Imperial Airways Ltd., Airways House, Charles Street, London, S.W.1. School children must make their application through their Schoolmaster or Schoolmistress. Full information about the services of Imperial Airways may be obtained from the offices of the principal travel agents, or from Imperial Airways Ltd., Airway Terminus, Victoria Station, S.W.1, or from Airways House, Charles Street, S.W.1. Telephone, Victoria 2211. Telegrams: 'Impairlim, London.' Airway Terminus is open day and night. Details of all the services of Imperial Airways and of other Air Transport Companies are given in *Bradshaw's International Air Guide*, which is published every month and may be bought from any newsagent in the United Kingdom, price 1s., or from the Proprietors at 5 Surrey Street, Strand, London, W.C.2.

AS OTHERS SEE US

The Australian Manager of the Employers' Liability Assurance Corporation Limited, Mr. H. Vernon Heath, travelled recently from England to Australia, and later paid the following tribute to the service:—

'Looking back over the trip and reflecting, one realises that a journey by air mail is not a stunt, but a carefully planned and well-organised service. Imperial Airways, with their subsidiary companies in India, and Qantas in Australia, give British standards of efficiency and service throughout the vast length of the routes.

'Each night on the trip out is spent comfortably on land, and it should be recorded that fares include accommodation at the best hotels; all tips are also included.

'In the planes as constructed to-day, one can talk without raising one's voice in the saloons. The planes are equipped with armchair seats, and all of the air liners utilised are of the four engine type.

'In conclusion, a tribute must be paid to the pilots and personnel connected with the air services; they are most courteous and anxious to do everything possible to ensure the comfort and well-being of passengers.'

Continued from page 3.

Karachi is the change-over station between the *Atalantas* of Imperial Airways' No. 3 Division and the *Handley Page Hannibals* of No. 2 Division based at Cairo.

'The *Hannibal* in this instance took off at 10.30 hrs., a day and 1½ hrs. behind schedule, and flew day and night for 35 hours, making all the scheduled stops, from Karachi to Gaza, where it arrived just after 18.00 hrs. (local time) on the following day, having caught up all the delay except one stage.

'Miscellaneous delays kept it at Gaza for the night, possibly to the passengers' relief, but an early start brought it into Alexandria in time to transfer the load to the waiting *Short Scipio* flying-boat which went off precisely on schedule time for Brindisi.

'Thus twelve sheets of paper with very little on them beyond a few coloured lines give a complete record of the working of an Imperial air service for a whole year.'

GREAT SUCCESS OF THE EMPIRE'S AIRWAY EXHIBITION

VISITED BY NEARLY 150,000 PEOPLE

This exhibition closed at the Science Museum, South Kensington, on 2 February after being open to the public from 6 December.

During that period nearly 150,000 people have visited it and it may be regarded as having proved a great success.

The Press of the world reported it very fully and Imperial Airways has now under consideration organizing a tour in this country and in the Empire. Details, as soon as they are settled, will be announced in a forthcoming issue of the *Gazette*.

REBATES ON AIR TICKETS TO FAIRS

In conjunction with the Belgian Air Lines (S.A.B.E.N.A.) and Österreichische Luftverkehrs A.G. (Olag), Imperial Airways has agreed to grant a rebate of 10% on the published single and return fares to Vienna for visitors to the Viennese Spring and Autumn Fairs.

The periods of validity for the tickets are as follows:—

Spring Fair

From London 22 February—14 March

To London 9 March—24 March.

Autumn Fair

From London 22 August—12 September

To London 7 September—22 September.

Bona fide visitors entitled to the rebate will establish their identity by means of a card issued by the organizers of the Fairs, which should be produced at the time of booking.

In conjunction with the German Airways (D.L.H.) and the Belgian Air Lines (S.A.B.E.N.A.), for which companies Imperial Airways is the General Agent in Great Britain, Imperial Airways will grant a 10% rebate on the published single and return fares for visitors to the Leipzig Spring Fair which is being held from 1 to 9 March. The period of validity from London will be 25 February to 9 March and from Leipzig from 1 to 19 March.

A 10% rebate will also be allowed to passengers visiting the Foire de Lyon which is being held from 5 to 15 March. This rebate, which is being granted in conjunction with *Air France*, applies to the European routes only and will be granted to passengers presenting 'cartes de legitimisation.' The period of validity from London to Lyon will be from 2 to 15 March and in the return direction from 5 to 20 March.

The 17th Commercial and International Fair will be held at Brussels from 1 to 15 April and Imperial Airways, in conjunction with the Belgian Air Lines (S.A.B.E.N.A.), has agreed to issue a 10% rebate on the published single and return fares for visitors to and from the Fair who present a 'carte de legitimisation.'

The periods of validity from London to Brussels or from Cologne to Brussels will be from 27 March to 15 April, and from Brussels to London or from Brussels to Cologne from 1 to 18 April.

GUIDE TO IMPERIAL AIRWAYS' AFRICA ROUTE

For the guidance of our agents, readers and potential travellers, we have prepared a series of notes on each stopping place along the *Africa* and *Australia* routes.

The first section of these notes covers the Africa route. Notes on stations north of Entebbe have appeared in previous *Gazettes* beginning with Alexandria in the April, 1935, issue. We continue below with notes on *Entebbe*.

ENTEBBE

4,552 miles from London.

3,311 from Cape Town.

CLIMATE

Entebbe has a pleasant climate. From November to March and during July and August it is dry. January and February are the hottest months. There are heavy rains from April to June; during September and October there are light rains.

CURRENCY

Throughout Uganda, Kenya and Tanganyika the standard coin is the shilling, of the same value as an English shilling. The

shilling consists of 100 cents divided into 50, 10, 5, 2 and 1 cent pieces. There are notes of 5, 10, 20, 100, 200, 1,000 and 10,000 shillings.

HOTELS

Government Rest House (used by Imperial Airways' passengers for meals), Imperial and Savoy Hotels (at Kampala, 25 miles).

THE TOWN, POINTS OF INTEREST

Entebbe was founded in 1893 and made the administrative capital of the Protectorate the following year. It is situated on a promontory in Lake Victoria.

There is easy communication by road with Kampala, the commercial centre of Uganda, which is of considerable interest to visit; the ride is a pleasant one through avenues of rubber trees with views of beautiful country.

On a hill at Kampala, Mengo Hill, is the residence of the native ruler of the Buganda people.

The layout of the buildings, the attendants, and the beating of the Royal drum are of interest.

Here, too, is Kasubi Hill, where is the tomb of Mtesa, the capable but cruel ruler of Uganda from 1860 to 1884. The tomb was the scene of large numbers of human sacrifices during the reign of Mtesa's son Mwanga. A perpetual watch over the grave is still kept by Mtesa's descendants.

The Anglican and Roman Catholic Cathedrals are both situated at Kampala upon hills. The material for the Roman Catholic cathedral was carried up by the worshippers to the original church, each person taking up one brick upon each visit.

There are interesting excursions from Entebbe by steamer upon Lake Victoria, and the sport available is referred to below.

SPORT

There is a sports club at Entebbe, golf is available and yachting on Lake Victoria.

From the point of view of shooting there is much sport in the district surrounding Entebbe and Kampala. Immediately around these towns, buffalo, bushbuck, common duiker, crocodile, hippopotamus and situtunga are obtainable. At a distance of 40-50 miles from Kampala (Entebbe is 25 miles south of Kampala) the following may be obtained: blue duiker, leopard, hartebeest, red (forest) duiker, elephant, lion, Uganda kob, wart hog, waterbuck.

Between 50 and 100 miles away may be found eland, impala, oribi, topi, reedbuck and zebra.

Good duck shooting is obtainable on Lake Wamala, 50 miles west of Kampala and locally francolins (partridges) and guinea fowl are plentiful.

Fishermen may obtain barbel and tilapia at Jinja and Ripon Falls, 55 miles east of Kampala.

There are no close seasons for any of the species mentioned above in the Entebbe and Kampala districts, but the dry season from November to March inclusive is regarded as the shooting season.

Guns and rifles may be purchased at Kampala and ammunition is obtainable, if not immediately, within 48 hours.

The cost of expeditions naturally varies according to the type from a local shoot for birds to a safari. Accurate particulars can be obtained from Central Africa Travel Ltd., Kampala. Carriers, including food, cost 50 cents a day and skilled white hunters command salaries of £80 to £150 a month.

Notes covering the licence conditions, game reservations, and other government regulations are issued free of charge to bona fide inquirers by the Governments of Uganda, Kenya and Tanganyika. They may be obtained from the game wardens in the countries concerned, or from H.M. Eastern African Dependencies, Trade and Information Office, Grand Buildings, Trafalgar Square, London, W.C.2.

Note: (General information on big-game shooting in Africa is given in the November, 1935 issue of the Imperial Airways Gazette.)

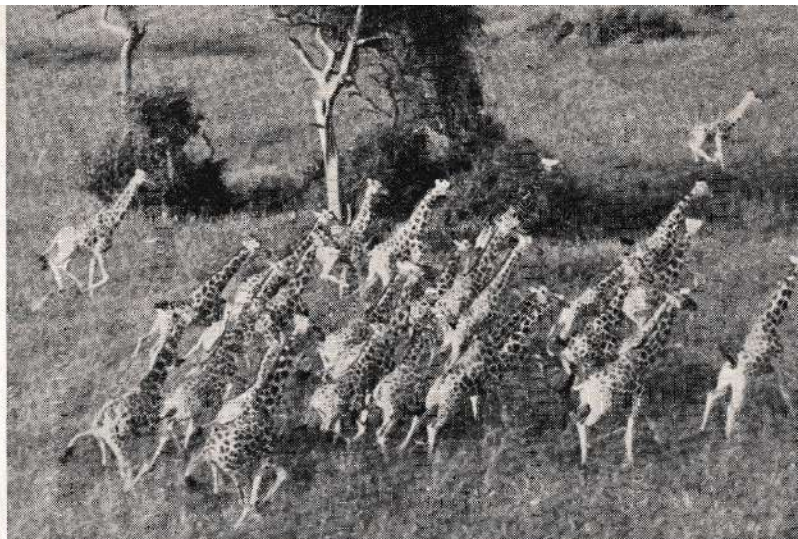
IMPERIAL AIRWAYS' SERVICES TO ENTEBBE

There are two services a week by Imperial Airways to Entebbe, leaving London on Wednesdays and Sundays and arriving at Entebbe on Mondays and Fridays, 5 days after leaving London.

TRAVEL CONNEXIONS FROM ENTEBBE

By Air: Imperial Airways.

Two services a week between Entebbe and England. Services leave Entebbe for Kenya, Tanganyika, Rhodesia and South Africa on Mondays and Fridays, the service which leaves



Giraffes from the Air

[Photo by Lt.-Col. F. T. Colby

on Fridays ends at Johannesburg, and the service leaving on Monday continuing to Cape Town.

By water: Kenya and Uganda Railway, Lake Victoria Steamers Port Bell (Kampala) Bukakata, Busungwe, Bukoba, Mwanza, Musoma, Karungu, Kisumu and Jinja.

By land: Kenya and Uganda Railways:

Jinja, Mbulamuti, Namasagali (connexions by steamer to Masindi Port, and road service to Butiaba), Kaliro, Tororo, Mbale, Kumi, Soroti, Leseru, Eldoret (connexions on by rail to Nairobi and Mombasa).

By road: Butiaba (connexions by Lake Albert Steamers to Kasenyi, Mahagi Port and Packwach and by Nile Steamer to Nimule (Sudan), Costermansville and Ruanda-Irundi.)

A VOYAGE TO AUSTRALIA BY AIR

We reprint with acknowledgment to the *Sunday Tribune* of Malaya an article written by a resident of Singapore describing his flight from Singapore to Brisbane by Qantas Empire Airways, a company in association with Imperial Airways, for operating the service between Singapore and Brisbane.

'It was still an hour before dawn on a Monday morning when we arrived at Seletar Aerodrome. The silver air liner which was to carry us on our 4,300-mile journey to Brisbane was already out of its hangar.

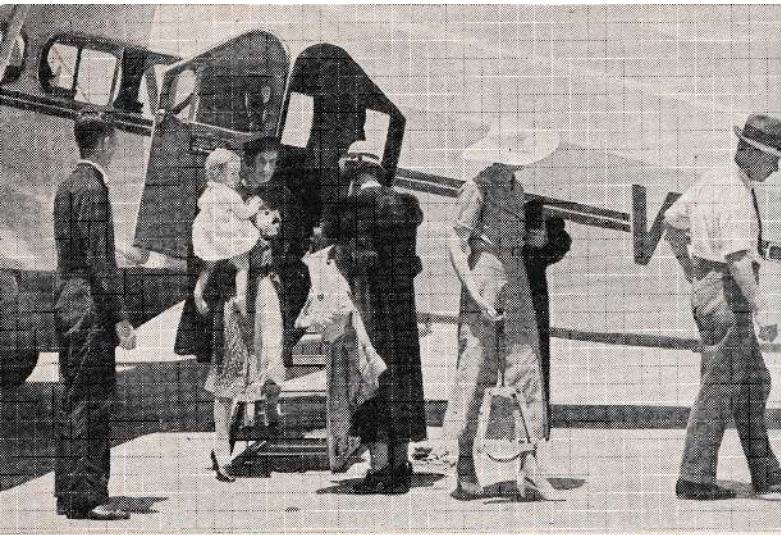
'As our passports were checked, baggage was weighed and the final formalities were completed, the engines of the machine were being gradually warmed up ready for the flight. The blue flames shooting from the exhausts added one more colour to the yellow boundary lights, the flare path, and the red lights marking high points around the aerodrome.

'Luggage was stowed by 5.30 a.m. and a few minutes later we were taxi-ing gently along the path on to the aerodrome proper ready for the take off. Once more the engines were gradually

The Murchison Falls

[Photo by American Colony Photo Dept.





Arrival at the Airport of Brisbane

worked up to full speed, and with a depthroated roar we dashed along the path marked by the flares and rose smoothly into the air. The Qantas aeroplane *Melbourne* had started on its long journey.

Out over the Johore Straits, then a gentle turn and we set off on a course for Palembang. Almost before we had settled down, Singapore town appeared on our right, its streets sharply defined by lights. One almost got the impression of the spokes of a wheel radiating from a hub which must have been the vicinity of Empress Place and Raffles Place. It was too dark to pick out known spots on the ground.

RHIO ARCHIPELAGO

Raffles light and Fort Canning light were beginning to pale as day started to break in the east. The lights of Pulau Samboe could be picked out distinctly and then we were over the Rhio Archipelago.

It is impossible to imagine the numerous islands and winding waterways that comprise the Archipelago until one sees them all at the same time, as one does from the air. It was an extraordinarily beautiful sight, the water gradually turning from dark grey to red and gold as the sun rose gently over the horizon.

THE FUTURE IS IN THE AIR

Imperial Airways often carries on its services young babies and here is one who recently made a long journey on the Empire routes.

Judging from this photograph and the interest which she is showing in one of our route maps, she certainly appears to be approving of the value of air transport.



A solitary steamer, winding its way through one of the channels, appeared to be lost in the maze. As the sun came completely into view the hills of Lingga and Singkep appeared on the left and after these islands were passed there was nothing but water ahead.

We were now at a height of about 2,500 feet, travelling at 135 miles per hour as smoothly as in a motor-car. An hour and a half after leaving Singapore we were over the coast of Sumatra with the mouth of the Djambi river almost directly underneath us.

As far as the eye could see was jungle in every direction. Suddenly our view of the ground was completely shut off and we were sailing over banks of thick white clouds, which resembled nothing so much as balls of cotton wool. Occasional gaps in the clouds revealed winding streams and the everlasting jungle.

AT PALEMBANG

A larger gap than usual and the Palembang river could be seen with a small steamer, which had left Singapore 36 hours before, approaching. Again the clouds blotted out everything, more completely than ever this time, and we began to wonder how our pilot was ever going to land at Palembang.

However, there was a sudden dive through the clouds and the red roofs of a town appeared 500 feet below us. Five minutes later we were safely on the ground, having been brought practically blindfolded to the aerodrome by the aid of wireless direction finding.

There was time for a cigarette while the machine refuelled, and this became the regular feature at each stopping place. A few natives appeared to watch the proceedings, one of whom carried an old flintlock gun, which looked as if it might have been out of date at the time of Waterloo.

He said he was going shooting birds, and we thought he was rather daring if he ever pulled the trigger of the fearsome looking weapon.

In a few minutes we were off again. The country round about Palembang had a cultivated appearance, small patches of vegetable gardens and coconut palms showing up clearly. This gradually gave way again to swampy jungle as we worked our way south from the town of Palembang, with its coal wharves and river clearly defined. The jungle became monotonous after a time, but approaching the south-east corner of Sumatra the dark green became dotted here and there with lighter shaded palms which broke the monotony.

ON TO BATAVIA

Just here the second pilot appeared from the cockpit to find out if we were comfortable and then offered us each a little box containing sandwiches and fruit. The time for the "snack" was well chosen as we had seen enough of jungle for one day. The sunshine of the earlier morning had now given way to dark clouds, and as we crossed the coastline again headed for Batavia there was a little rain. It cleared up very quickly, however, and about 10.20 a.m. the coast of Java appeared on the horizon.

We were now only 1,000 feet high and we shortly passed a group of small islands which did not look real. They were of all shapes and sizes, with shining white beaches and coconut palms, but they were so regular in outline that they appeared artificial. They had to be seen to be believed.

A glance at the map provided gave their name as the "Duizend Islands." The sea now appeared in various hues, light green round the islands, mingled with brown where sand banks showed up, gradually merging into dark greens, blues and greys.

An occasional sailing boat with its white sail warned us of our near approach to Batavia. After passing a white lighthouse we flew straight over Tandjong Priok, with the curved arms of the breakwater showing up clearly. Running away to the right could be seen the railway line to Weltevreden and the canal.

In the background appeared clumps of trees mingled with the clusters of red roofed houses—Batavia.

INTENSE CULTIVATION

The town seemed to straggle all over the landscape. It must occupy a considerable area. We kept well to the left of the town, and could only distinguish the more prominent buildings, that of the K.P.M. showing up clearly. The aerodrome is several miles away, but in a few moments we had landed there—a very pretty spot—taxied to the hangars and were soon

engaged in devouring a late breakfast in an attractive restaurant on the aerodrome.

'It was a typically Dutch meal and we were able to do ample justice to it in the half hour allowed.

'There are two features that strike one, seeing Java for the first time, the greenness of everything and the intensity of the cultivation. Every bit of ground which would grow anything appeared to have something growing on it.

'The principal crop appeared to be rice. The country has therefore a very pleasing appearance from the air, something like a patchwork quilt, but the colours confined to greens, browns and yellows.

'Leaving Batavia, I did not feel too comfortable, possibly as a penalty for a hearty breakfast, although it was certainly a bit "bumpy." Our pilot, ever anxious for our welfare, immediately went a little higher and this had the desired effect, for the rest of the day's flight was very smooth.

BEAUTIFUL SCENERY

'We were now heading for Sourabaya and the scenery was charming. On the right the range of mountains which forms the backbone of Java and beneath the ever changing colours of cultivation.

'Dotted about were little villages surrounded by trees, adding a pleasing touch to a beautiful landscape. After passing over Cheribon, we kept over the sea, seeing Pekalongan and Samarang on the way, and passing occasional ships. Sugar refineries were now frequent landmarks.

'The remainder of the journey to Sourabaya was completed in a haze and the ground was not very clear. It appeared to show the same intense cultivation as the earlier part of Java.

'At Sourabaya an excellent lunch was waiting, and in half an hour we were on our way once again. By now the weather was ideal, glorious sunshine and not a sign of a cloud. We climbed gradually higher and higher until we were at 12,000 feet. It was chilly enough at this height to have the ventilators closed. The character of the country was now changing entirely and the further east we progressed the more rugged and wild did it become. Wooded ravines ran back to the centre line of mountains and only the areas near sea level appeared to be cultivated.

OVER BALI

'By the time we reached the east end of Java, the country had become thickly wooded and mountainous. Crossing Bali Strait, Banjoewangi could be seen and the air was so clear that even from 10,000 feet the white sails of small boats were easily visible.

'Bali, one of the most attractive tourist centres of the Netherlands East Indies, presents a vivid contrast to Java. It is one mass of rugged hills, mostly thickly wooded, but with occasional bare rocks gleaming brown.

'We were now so high that we could see a vast proportion of the island at once. The sea was a beautiful deep blue, turning to light green near the land. The scenery now was so magnificent that one regretted not being permitted to take photographs so that one could keep a permanent record of all this beauty.

'Gunong Agung, an extinct volcano, is below us and we are able to look into its crater although 11,000 feet high. A short distance away on the left is another volcano with a faint wisp of smoke coming from one of the various craters which can be seen, evidently an active one. The vivid red of its lava-covered sides stands out in marked contrast to the green of the surrounding landscape.

FIRST DAY'S JOURNEY

'Now we were passing over Lake Batur, appearing deep in shadow from the surrounding hills. This is certainly a sight not easily forgotten. We next crossed Lombok Strait and the temperature in the open air has dropped to 51 degrees F. which makes it necessary to put coats on.

'After Bali, Lombok appears perfectly flat with the exception of one vast sugarloaf mountain to the north, Mount Rinjani—12,000 feet and incidentally the highest point in the Netherlands East Indies.

'Again the country is cultivated mostly with rice, but whereas the fields in Java were green, these are yellowy-brown indicating lately gathered crops. We were now losing height gradually, and just as the sun was sinking and throwing golden shadows over everything, the aerodrome at Rambang came into view, and we made a perfect landing at 5.15 p.m.'

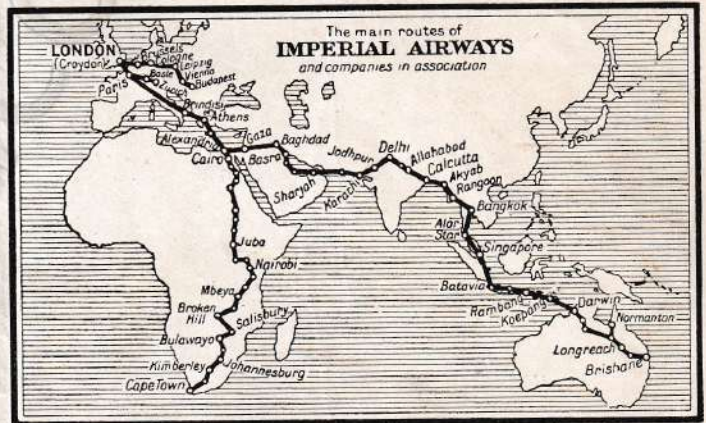
To be continued.



H.R.H. Princess Alexander of Greece

[Photo : Tito

THE EMPIRE'S AIRWAY



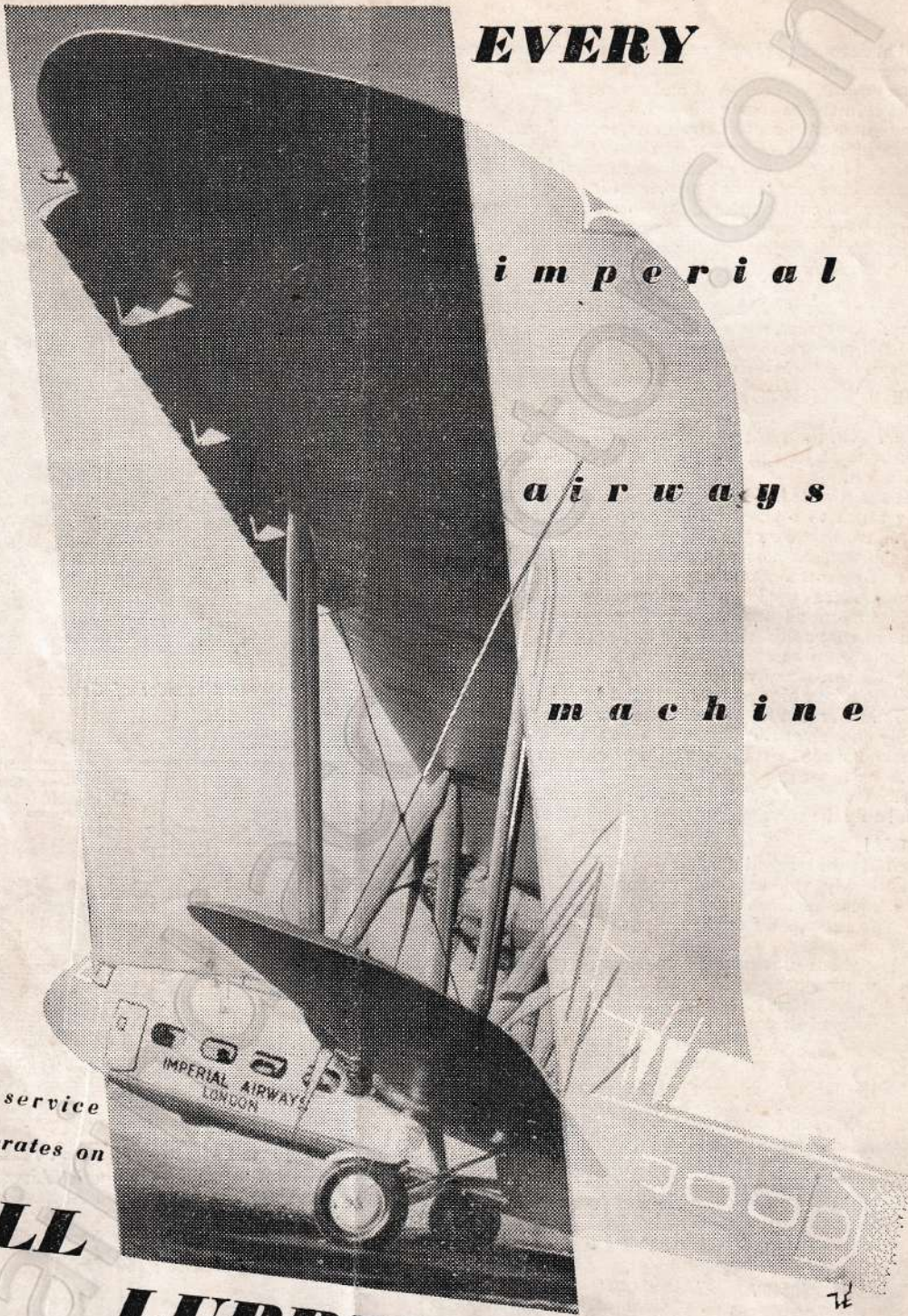
DISTINGUISHED TRAVELLERS

Royalty has patronized Imperial Airways' European services recently, for H.R.H. Princess Alexander of Greece and Their Royal Highnesses Prince Gustave, Prince Bertil and Prince de Bourbon of Sweden flew from Paris to London.

H.R.H. Prince Gustave of Sweden

[Photo : Tito





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