

ZOOLOGICAL PASSENGERS

Animals as Airline Payload: Some Notes on Care, Food and Comfort

By JOHN SIDNEY

Trunk route: one of five young elephants, en route from Karachi to London in a B.O.A.C. York freighter, seems happy enough.



THE carriage of livestock by air by British airlines has expanded so greatly in the post-war years that recently B.O.A.C. claimed "one in every seven passengers has four feet." Last year the Corporation carried 50,000 animals as against 305,000 human beings. The proportion would have been higher if birds, fish and reptiles had been included for, all told, 230,000 creatures were carried in 1953. B.E.A. carried about 100,000 creatures last year.

The immediate post-war years saw British and American airlines seeking to capture some of the new Noah's Ark freight business which K.L.M. Royal Dutch Airlines had pioneered in the 'twenties and developed between the wars. K.L.M. had carried out one of the first experimental flights in 1923, when a prize bull was flown to an agricultural show.

Some indication of today's air traffic is given by the figures recorded at the R.S.P.C.A.'s new £20,000 animal hostel at London Airport, where 323,054 "guests" were received during 1953. They included every type of animal, bird, reptile, fish and insect, from elephants to bees. Almost the only animal not received at the hostel was the giraffe, and that merely because no freighter is yet in service with sufficient headroom for these animals.

The animal guests at the London Airport Hostel included those embarking and ending their journey at London and those in transit. This third class is by far the largest, and their most frequent destination is the U.S.A.

B.O.A.C. flies a load of animals from the East in to London every week-end. The Corporation's York freighters operate a regular once-weekly service in each direction between London and Singapore with intermediate stops at Tripoli, Cairo, Bahrain, Karachi, Delhi, Calcutta and Bangkok. On their outward flights from the U.K. these services carry air cargo of all descriptions for destinations along the route and pick up consignments at their intermediate points of call. On the return flights from the Far East the bulk of the traffic is animals, uplifted mainly from Bangkok, Calcutta, Delhi and Karachi. Sometimes the Yorks deviate from their normal routing in order to deliver animals direct to points in Europe.

Monkeys, birds and tropical fish are the most common travellers on the Yorks from the East. Sometimes as many as 5,000 monkeys are carried in a flight, most of them bound for United States zoos and research laboratories. But larger animals, including elephants and lions and tigers, are frequently carried by B.O.A.C. and other lines. Regent Park's *Dumbo* was one elephant carried here by air. *Mohini*, a rhinoceros, now at Whipsnade Zoo, was air-freighted from Calcutta.

Some idea of the variety carried is given by this breakdown of 37,140 creatures received at the R.S.P.C.A.'s hostel during one recent month:—

Monkeys ...	3,289	Pandas ...	1	Budgerigars ...	17
Mongoose ...	4	Storks ...	2	Parrots ...	6
Squirrels ...	8	Flamingoes ...	25	Myna birds ...	1,560
Hamsters ...	5	Turkeys ...	50	Snow cocks ...	2
Dogs ...	110	Secretarybirds ...	15	Pheasants ...	3
Cats ...	11	Goslings ...	16	Java sparrows ...	18
Bears ...	2	Chickens (pedigree) ...	1	Waxbills ...	660
Wolf cubs ...	3	Frogs ...	4	Starlings ...	10
Lions ...	2	Pythons ...	1	Parakeets ...	100
Tigers ...	2	Snakes ...	1	Finches ...	30,160
Crocodiles ...	1	Canaries ...	651	Bul-buls ...	400
				37,140	

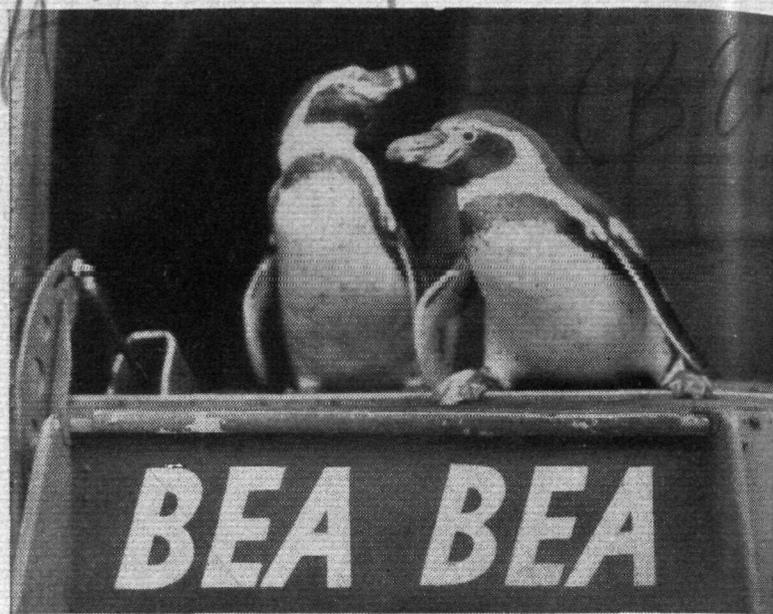
B.E.A. carries a heavy traffic in goldfish from Bologna, Italy, and in dogs from all over Europe. From time to time it flies circus animals and does a regular run from the South of France with leeches for London hospitals. The Corporation mainly uses Pionairs for this work, and occasionally Vikings.

The veteran Avro York, with its high wing and tailwheel under-carriage, is particularly useful for freighting livestock as its configuration is a great asset for loading and unloading. The aircraft are completely stripped inside and are fitted with strong floors provided with numerous anchoring points. Large double doors are fitted. At a maximum all-up weight of 68,000 lb the Yorks can carry approximately seven and a half tons of cargo.

The total length of the fuselage is 78ft 6in, and the length of uninterrupted space available for the stowage of freight behind the crews' quarters measures over 47ft. The width varies from 7½ft at the widest point to 4ft at the narrowest. Maximum height is 8ft. The capacity of this compartment is 1,939 cu ft and the usable floor area just under 300 sq ft. This roomy fuselage has enabled B.O.A.C. to carry bulky and heavy consignments of livestock. During 1952, for instance, 18 young elephants were flown from Bangkok to Europe and on one occasion five of them travelled together in the same aircraft. The Corporation has evolved a simple and effective method of "caging" elephants. Boards are first laid on the metal floor and stalls made from planks of hard wood are constructed facing fore and aft along one wall. Metal trays filled with sawdust are used as "floor covering." When the five elephants travelled together three such stalls were joined end to end along the starboard side of the aircraft forward of the double doors and two further stalls were fitted at the rear. The space opposite the doors was kept free during loading and

Airline passengers sometimes complain of being "herded": the elephant—one of those referred to above—could have had no complaint on that score.





The West Highland Terrier was in the export freight shed at London Airport en route to Basle; the consignment, for Whipsnade Zoo, of penguins had arrived at Northolt by B.E.A. from Hamburg; and the appealing leopard cub, seen in a B.O.A.C. receptionist's arms, was from India.

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unloading to give room for the elephants to manoeuvre into their stalls and during flight this area was used to store supplies of food and drink. Seats for the attendants were fitted one behind the other to the floor points on the forward port side of the fuselage leaving a narrow gangway between the seats and the stalls.

During the loading at Bangkok all the cross-members were removed from between the three forward stalls. The first elephant, occupying the forward position, was led through the two intervening stalls and the cross-members dividing the front stall from the middle one were re-positioned. The second elephant was then led into the middle of the three stalls and the cross-beams dividing it from the third one were also fixed into position. The third elephant went straight into the stall nearest the double doors and again the cross bars at the end were bolted in place. A similar arrangement was used for the two remaining stalls in the rear of the aircraft.

A slightly different system was used in 1951 when B.O.A.C. flew 32 polo ponies from Baghdad to the U.K. Four flights were made, eight ponies in horse-boxes having been carried on each journey. The animals were loaded into their boxes before boarding the aircraft and each box was then manhandled into the fuselage by local labour. Once inside the aircraft the boxes were positioned in accordance with a pre-arranged plan and securely lashed to the floors and walls.

The Yorks have also proved to be very suitable for the carriage of racehorses. Here again loading is greatly simplified by the double doors, a motor horse-box being backed up to them and the horse walking direct into the aircraft along a ramp.

In addition to the regular consignments of animals travelling on the York and Pionair freighters, provision is made for the carriage of some livestock on normal passenger services. This applies mainly to domestic pets and small creatures, such as day-old chicks. Wild animals are never, of course, carried in the same aircraft as human passengers.

The double-decker Stratocruisers which operate B.O.A.C.'s standard services on the North Atlantic routes have spacious freight-holds on the lower deck, where quite large animals can be accommodated if necessary. Air travel is of value to breeders of Siamese kittens who export from Britain to all parts of the world, and air cargo facilities were recently utilized by British and American herpetologists—frog collectors—wishing to "swap" specimens.

In the post-war years animal dealers, zoos and circuses were quick to anticipate the advantages of air travel for animals; journeys were short and took but a fraction of time required by surface travel.

But at first, anticipation outstripped practice. Mortality and sickness were high among livestock, simply because not enough was known about the conditions under which they should travel. Draughts and sudden changes of temperature brought on pneumonia in birds and animals—particularly in monkeys; overcrowding and unsuitable crates and containers brought more deaths. R.S.P.C.A. officials at London Airport frequently would pull out 500 dead or dying birds from a consignment of 2,000; up to 50 monkeys would be found dead or dying among a consignment of

1,000. There were many deaths, also, among certain breeds of dogs.

Alarmed, airline companies went into conference with the R.S.P.C.A. The Society agreed to act as a clearing house for knowledge gained and to undertake research into the problems. It would also undertake to build the London Airport hospice to receive animals delayed on their journeys and in need of food, lodging, exercise, first-aid or veterinary attention.

This hospice comprises a central hangar-like building into which vehicles containing cages of animals may be driven. The building is heated by thermostatically controlled tubular electric heater units, and on one flank are ranged blocks of quarantine and non-quarantine kennels and catteries with appropriate runs. On the other flank is stabling with loose boxes and stalls opening on to an enclosed paddock. Fronting the kennel side of the building, and looking out on to the airport, are the offices, pharmacy and surgery. On the opposite side fronting the stable block are the kitchen, forage stores and larder.

This hospice is the first of its kind and, hope the R.S.P.C.A., the prototype of many others. For some years K.L.M. have been operating something rather different—an "animal hotel" at Schiphol in Amsterdam.

The admiration of animal exporters and collectors all over the world, the London Airport hostel has undoubtedly made a considerable contribution to the health of air-travelling animals since it opened just under two years ago. Of the 37,140 creatures which passed through the hostel in one recent month the R.S.P.C.A. reported only eight deaths—of seven finches and one monkey.

Research carried out by British airlines and by the veterinary surgeons of the R.S.P.C.A. has also helped greatly. Many deaths occurred at first among greyhounds, which became hysterically excited, had apoplectic seizures, and succumbed to ruptures of blood vessels in liver and brain. R.S.P.C.A. surgeons finally found the cause of the intense excitement—and with it, the remedy. The greyhounds had been placed in boxes very much like the traps in which they were put before a race. When the aircraft engines started up, they took it to be the sound of the mechanical hare and became hysterically excited. Today greyhounds are despatched in slatted containers so they can see out, and an attendant stands near to reassure them when the engines start.

Most dogs take well to air travel, but it is unwise to send any dog which is under six months of age. "Dome-headed" dogs, such as bulldogs, boxers and pekingese, are bad risks owing to their excitable nature and respiratory difficulties in the tropics and at altitude. B.O.A.C. has an amusing story of a steward who had to climb into an oxygen tent with a nervous bulldog, midway over the Atlantic. Cats travel well, and are rarely airsick. As a rule, dogs and cats travel in boxes or baskets lined with blanket material and are fed by the steward or stewardess in accordance with instructions supplied by the owners.

For nervous dogs and cats the R.S.P.C.A. has found a very successful homoeopathic remedy, Borax 3X. This is a mild sedative and has been used by the R.S.P.C.A. on the night of November 5th to quieten pets made frenzied by the noise of fireworks.

Birds, generally, are good travellers, but day-old chickens used to travel badly at first and the R.S.P.C.A. hostel had to treat many



for pneumonia. Packed in square-shaped containers, the tiny birds crowded into the corners, got overheated and caught chills. The R.S.P.C.A. now urges the despatch of day-old chicks in circular, and therefore cornerless, containers.

Airlines have learnt the importance of not subjecting animals to extremes of temperature or to draughts. When a B.O.A.C. freighter arrives at London Airport care is taken, particularly in the winter, to ensure that the animals shall not suffer sudden change of temperature during unloading. Before the arrival of an "airborne zoo" the temperature of a covered van waiting on the tarmac is raised with warm air from a ground heater unit which is also coupled to the aircraft immediately it comes to a standstill. The animals are unloaded as quickly as possible so that they shall not be exposed to the cold, and taken to the R.S.P.C.A. hostel—where the heating bill per quarter often runs as much as £100.

At intermediate stops along the route where the animals remain in the aircraft overnight warm air units are coupled to the aircraft heating system so that the temperature inside the aircraft may be kept constant.

Airlines, too, have learnt much about the loading of livestock in planes. Mammals, they find, are best carried in semi-darkness, which they find more restful. But birds must be stowed facing the light, because they will not eat in the dark.

Much has been discovered about the various types of cage required for different animals. Containers must be "nose- and paw-proof." Oblong boxes are recommended, so that in the event of any shaking during handling, or any motion of the aircraft, the animal will receive a certain amount of support; in a square box it will slide from side to side. Crates must be just big enough for dogs to stand upright to turn round in. If the container is too big the dog runs the risk of injury in bumpy conditions.

While it is desirable that animals should have adequate room to move about, monkeys prefer to huddle close together.

Partridges and pheasants are given to jumping and this habit might lead to injuries to their heads against the roof of their container. A piece of canvas, therefore, must be stretched tightly across the box about two inches below the solid roof; or alternatively, the roof must be padded with a soft material such as cotton or kapok. Similarly, sacking or felt padding must be used in cases containing pythons, anacondas and corais snakes, because their skins and noses are soft and easily damaged.

Anthropoid apes require particular attention. They like to have blankets in which to wrap themselves during the journey—and, lacking the companionship of others of their own species, they need the company of human beings to keep them happy. Left to themselves they are inclined to pine.

Some idea of the personal attention which the animals receive is given by an incident which occurred when two orang outangs were travelling from the Far East to North America. They had to change aircraft at London Airport and had several hours to wait before continuing their journey. One of them appeared to be a little off-colour, so he was taken to a nearby pet shop for expert attention during the "stop-over." When the airline officials went to collect him a few hours later they found the orang outang, completely recovered, comfortably seated in an armchair in the pet shop owner's lounge, with a blanket around his shoulders, a cup of tea in one hand, and his eyes glued to the television set!

All B.O.A.C. security wardens are trained in animal care. Recently warden R. Chennells earned himself the nickname "monkeys' midwife" on a recent freighter flight from the Far East. He was travelling as attendant in charge of a consignment of 700 monkeys when 12 of them decided that the interior of a York flying at 10,000ft over India was as suitable a place as any for a maternity ward. Mr. Chennells officiated throughout and on arrival at London Airport was able to report that "mothers and children were doing well."

The transport of fish has provided a number of problems, one being that at 20,000ft the oxygen content of water is reduced to half of the figure at sea level. One solution of the problem has been to send fish in water contained in polythene (plastic) bags which are sealed after oxygen has been pumped in. This is a recent development from the "pressure can," a pressurized container designed by B.O.A.C. cargo experts and the Singapore Fisheries Department. Roughly the size of a four-gallon petrol tin, the can has a screw-thread glass top and two nozzles to which air lines can be attached. It can be sealed off at will. When the fish begin their journey, they are placed in water in the can and oxygen is pumped in through one of the nozzles. When a suitable volume of water has been expelled by the oxygen, the supply is cut off and both nozzles are closed. As many as 500 small fish have been canned together in this way. They can live in such conditions for five days without the need for repacking.

Both the plastic bag and the pressure can have proved very successful in air-freighting tropical fish. Bag and can are insulated, generally by Onazote, to retain the temperature of the water.

Correct feeding of livestock in flight is important. Three meals a day of bread and butter with jam or honey, fruit and greens are provided for orang outangs, gorillas and chimpanzees. Lumps of sugar and pieces of cake are recommended for keeping them happy between meals. Beasts of prey such as lions, tigers and panthers, should be fed once a day, preferably late in the afternoon, and their requirement is 1½ kg of raw meat for every 30 kg of live weight. Crocodiles present few problems *en voyage* as no food is required for up to six days and they are quite happy provided they are watered daily with a hose.

Frogs, toads, newts and salamanders do not drink, but they must always be kept damp, otherwise they are unable to breathe through their skins, when they quickly "dry up" and die. To maintain a moist atmosphere, damp white blotting paper or damp sponges must be used. Very large frogs require special treatment. As they are liable to jump at the lids of travelling cans and damage their noses they must be packed in wooden tubs with sacking covers and two inches of fresh water at the bottom.

On more than one occasion animals and birds have been known to keep airline attendants unnaturally busy. On a recent Saturday afternoon B.E.A. landed ten penguins at Northolt and found that the birds could not be delivered until Monday. Over the weekend 2 cwt of fish were fed to the penguins—and every single fish had to be tossed into the air before the fastidious creatures would eat it.

AMERICA'S AIRCRAFT EXPORTS

THAT Holland, France and Britain, in that order, have been the largest buyers of American aircraft during the last seven years is shown in a special report issued by the U.S. Aircraft Industries Association.

Holland was the best customer of the U.S. aviation industry with purchases in that time worth \$55,680,000 (£19,875,721); France was second with purchases totalling \$43,796,000 (£18,553,000), of which \$39,962,000 (£14,260,000) was paid for 35 airliners. All but a small fraction of the total paid by Holland was for passenger aircraft.

The British Commonwealth is included in the report as a "seven-area joint buyer." The seven areas are Britain, Australia, Canada, South Africa, India, Pakistan and the Bahamas, which during the seven years bought aircraft and spares and equipment worth a total of \$49,172,000 (£17,550,000).

In all, the United States exported aircraft, spares and equipment worth \$2,534,000,000 (£905,000,000).

The report, presented by Mr. John Payne, who is the A.I.A.'s export director, remarks that "continued U.S. domination of the world aircraft market is indicated by recent studies showing that U.S.-built planes are at work today in 103 countries."