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REPORT TO: Falkland Islands Section, Latin America Department, Ministry of Overseas Development, Eland House, Stag Place, London S



RE: FALKLAND ISLANDS ARCHIVES CONSERVATION PROJECT SEPTEMBER-DECEMBER 1978

Background: In response to the request (dated 31 March 1978) by the Government of the Falkland Islands for British Technical Assistance I was assigned on 20 September 1978 to carry out a three month conservation project for the Falkland Island Archives situated in Port Stanley. This project had to be realised before the departure of Dr. Daphne Gifford, the Government Archivist, prior to the termination of her secondment to the post early in 1979. Dr. Gifford was seconded in 1977 from the United Kingdom Government to list, arrange, research, and generally make available to members of the public and Government departments the Archives of the Falkland Islands. Although listing and arranging had been virtually completed and research carried out, these records could not be fully used, as many of them required experienced conservation treatment to free papers which had adhered together, to strengthen particularly fragile documents, and to make up loose papers in a permanent form. The documents needing repair had suffered from fire and water damage and from unsatisfactory storage conditions. It was considered that conservation work was essential for the proper completion of the Government Archivist's assignment.

Preparations: My immediate task on appointment was to assemble, as rapidly as possible (within 10 days), materials and equipment to set up a conservation laboratory/workshop suitable for the particular needs of the Archives. My choice was based on the initial technical aid request details and on radio telephone conversations with Dr. Gifford. Though I received some information of what facilities and equipment were available in Port Stanley, it was evident that I could rely on only minimal technical support and it was not really possible without specialist examination of the damaged material to ascertain exactly the character of the degradation it had suffered. The major damages seemed to have been caused by fires (on two separate occasions) which destroyed the Town Hall and Secretariat in which the Archives had been housed. Apart from actual burnt damage, the salt water which had been used to douse the documents in the fire-fighting operations had caused severe blocking of the pages of many volumes and other effects (see *Conservation Programme*). Repair materials and equipment particularly suitable for the conservation of disaster struck materials were therefore assembled. (see *Appendix* ). I placed the accent on light-weight portable equip-

ment as it would have to be carried as personal excess baggage by plane (the only way to ship equipment to the Falkland Islands from Britain is by a quarterly charter vessel whose schedule did not coincide with the project). I was also limited in the materials I could carry, in that highly toxic and inflammable chemicals were not permitted on the plane.

I departed from Heathrow Airport on 25 September and, after some delay in transit through Buenos Aires caused by an O.D.M. administrative oversight in not obtaining an Argentine visa (I am an Australian citizen and had forewarned O.D.M. of the necessity for a visa) and in not arranging Argentine customs clearance for my very bulky baggage, I arrived in Port Stanley on Saturday 30 September.

Setting up of Laboratory/Workshop: The next 10 days, approximately, were occupied in setting up a workshop and orientating myself. The Falkland Island Archives have been allocated new premises on the first floor of a building originally constructed by the British Antarctic Survey on the harbourfront corner of Philomel and Ross Roads. The front room of this floor was allocated to me to carry out the conservation project (unknown to myself at this stage it was also planned to serve as the archivists office and reading room - an unrealistic space arrangement if serious conservation activities are to be carried out). This room is well illuminated and ideally suited as a conservation workshop. As it had been earlier used as a store room it was very dirty and required extensive cleaning and scrubbing and repainting. Because of a dire shortage of staff in the Falkland Islands Public Works Department I was obliged to undertake this task myself. Some furniture (filing cabinet, chairs, tables and a desk) derived from the abandoned whaling station of Grytviken in South Georgia was provided, which after refurbishing was quite satisfactory. A sink had already been installed and under my direction Public Works Department carpenters constructed two work benches from Dexion framing with chip-board tops overlaid with Perspex sheeting. The carpenters also cut a quantity of chip-board pressing boards. Public Works Department electricians also installed wall heaters and fitted extension cords and plugs to the electrical equipment brought from England. An electric ring was not available in Port Stanley so a small electric cooker was provided. An angle-poise architects lamp was also acquired, refurbished and painted. Some extra laboratory glass ware and utensils were unexpectedly acquired through the generosity of Neil Reid of Transocean Construction Co. who had recently taken over the

defunct analytical laboratory set up by Alginate Industries Ltd. to investigate the commercial potential of the kelp which grows so abundantly along the coasts of the Falkland Islands. Some basic paper supplies, e.g. envelopes, writing paper, blotting paper were supplied by the Secretariat. A range of organic solvents in small quantities were supplied by Port Stanley Hospital.

Conservation Programme: Once the laboratory/workshop was established, the damaged archives could be inspected with Dr. Gifford to ascertain what the conservation problems were and to decide treatment priorities. Firstly, it was clearly evident that the minimal industrial aerial pollutant levels in the Falklands together with fairly low and constant temperatures and fairly stable Relative Humidity levels had contributed to a remarkable state of preservation of the actual original materials. Considerable damage had occurred through careless handling and storage over the years but obviously the major damages had been caused by fire and "salvage". It was decided that three basic categories of damaged documents required treatment and that the most important examples of each category should be worked on in parallel:

1. Very badly charred and brittle material. This was relatively limited in number.
2. Water-damaged material, principally in the form of blocking caused by fire-heated salt water (used to douse the fires) melting gelatine and animal adhesives. This moisture had also contributed to mould growth in areas of the document structures which had been insufficiently dried.
3. Collections of vital early historical documents which had been badly guarded and bound in the late 19th century or early 20th century.

Over the next 10 weeks the following documents were treated and repaired:

Category 1: *DESPATCH BOOK: Oct. 1891 - Dec. 1893 OUTWARD.* This volume, which comprises 273 folios was the most severely damaged archive. It is composed of high quality hand-made document paper bound in an account-book style. Its covers were very heavily charred (the covers and boards of all materials disbound during this project were preserved and placed in manilla envelopes) as were the spine structure and head, fore edge and tail of each folio though the unburnt paper areas were in good condition. The volume contained highly water-fugitive manuscript inks, some of which had run in places where water had penetrated the text block.

In such badly charred volumes the basic problem is that the centre area of each leaf is still composed of paper in a fairly original state, with a cellulose fibre net-work which expands and contracts with environmental RH changes, while the charred border area is predominantly formed of very brittle carbon which has contracted and buckled the edges of the leaf and which responds, both to handling and environmental changes, in a completely different way. In such cases and especially in the case of archival material which must be made handleable and accessible the only realistic solution is to stabilize and consolidate the leaves by encapsulation/lamination. In the case of charred areas where the preservation of the text is a primary criterion the conservation principle of reversibility of repair materials may have to be discarded in favour of a process which ensures a permanent, chemically stable encapsulation or impregnation. In this instance, restricted to the light weight lamination equipment brought with me from England, I adapted a technique developed at the National Centre for the Restoration of Books and Documents in Madrid, Spain in which the charred document is laminated/impregnated with polyethelene film at high temperatures and pressures with a Japanese tissue infill in the lacunae in order to restore the thickness profile of the leaf with similar flexing properties to the original. This method allows the material to be bound again in codex form. For the Falkland Islands documents I substituted a newly developed lens tissue coated with a heat-set adhesive (manufactured by Ademco Ltd., High Wycombe, England) as the outer "sandwich" layers with a Japanese paper infill (*Shoji* laid).

The Japanese paper was coated with a transfer heat-set adhesive also manufactured by Ademco Ltd. The conservation of this particular volume was plagued by a faulty roll of the latter adhesive. This adhesive is supplied as a coating to a silicon paper roll and in this case the adhesive had not been evenly applied. This meant that one third of the roll had to be discarded which left me with just insufficient material to finish the volume. I therefore had to laminate the following pages with Lamatec tissue (also manufactured by Ademco Ltd.), which, although vetted by H.M.S.O. Laboratories as perfectly safe from a conservation standpoint, has a surface texture not in sympathy with the lens tissue used to lam-

inate the rest of the volume:	pp. 7V	bifolio	253 and 261
	16R	"	125 and 136
	38V	"	262 and 263
	265V		
	273R		

The Lamatec film is easily reversible in alcohol and a trained conservator, in the future, could easily replace a lens tissue laminate for Lamatec on the pages so treated.

This volume was not washed or deacidified because of its highly water-fugitive inks and because of the dimensional stresses which would be set up when water was absorbed (which would undoubtedly fracture the leaves even more). It was not possible to fix these late 19th century inks in the time available as there was no fume cupboard available and non-aqueous deacidification methods could not be used. This volume now requires a conservation binding. I was not able to carry this out because my initial brief did not lead me to expect that book-binding equipment would be required.

Category 2: Volumes on heavily sized azure hand-made document paper had suffered blocking of text leaves where hot salt water had either melted the spine adhesive or the paper size (gelatine in this case). These volumes were in otherwise robust condition and needed only careful localized application of moisture and prising apart to release their pages for normal use.

Category 3: At some stage in the late 19th or early 20th century, the collections of early documents and correspondence housed in the Falkland Archives were sorted into a rough chronological sequence and stuck into empty guard books supplied from England (these seem to have been manufactured by John Smith - Stationer and Bookbinder, Account Book Manufacturer, Copper Plate & Letter Press Printer, 19 Long Acre whose ticket appears on the inner covers of some of these guard books). The structure of these "do it yourself" guard books were totally unsuited for this operation, especially by a hand untrained in the craft of bookbinding. This guarding was very roughly carried out, the spines of the letters adhered so far in on the guards that much text was obscured. The thick paste/glue, encouraged by the moisture trapped in the volumes after the fire dousing, had provided a wonderful nutrient for moulds (these books obviously had not been opened up and dried after the fires). There had been no attempt made to compensate for the varying sizes of the miscellaneous documents or for the swelling caused by the build up of layers of documents and guards where they were adhered together. This awkward structure meant that the documents could not be handled without risk (this binding system had caused considerable degree of damage in the past) and it was decided to disbind them, separate the documents from their guards, repair the damage and re-guard and rebind them in a conserv-

ation structure. It was decided to start with the earliest dated volume and work through the rest in chronological order. The following volumes were treated in this way:

1. *Letters to Government 9th February 1846 - 21st October 1846*  
430 folios.
2. *Miscellaneous Documents 1832 to 1842.* 332 folios.
3. *Letters to Government 17th July 1841 - 1st October 1844.*  
288 folios.

All the above collections of documents were treated in a similar manner. After disbinding, the documents were separated from their guards aqueously (initial tests on the pH levels of the Port Stanley tap water showed it to be extremely variable from day to day and always distinctly acid. Therefore taking this factor into consideration together with the extremely good physical state of preservation of these predominantly high quality document papers, I decided not to wash or deacidify documents unless their chemical characteristics made it absolutely essential. In the case of the guards/documents which were released aqueously a small amount of calcium hydroxide solution was added to neutralize the water. Experiments on some manuscript inks had shown that a saturated solution of calcium hydroxide tended to induce an unwarranted colour change. This was a unique phenomenon in my experience and further enquiries have led me to believe that unmonitored additions of chemicals in Port Stanley's filtration plant may have been the cause. I was therefore hesitant to carry out lime water deacidification).

After drying and light pressing the damaged documents were repaired with either Whatman's lens tissue or Japanese paper (*Shoji, Kozu shi, Hosho, Hosho shi, Usimino 2, Kawasaki, and Gampi* tissue) and arrowroot paste. Small tears and weaknesses were repaired with an Ademco lens tissue laminate (the same lens tissue as used in the restoration of the burnt volume as described above). After pressing and repair the collation of each volume was adjusted to take into account various quite illogical inconsistencies (letters mounted upside down, folded back to front etc.). The documents were then guarded onto G.S.S. Glazed Cartridge Cream Wove (102gm<sup>2</sup>) made to the order of H.M.S.O. by Thomas Tait & Sons. These guards were then made up into the type of file binding structure favoured by the conservation department of the Public Records Office, London. The boards were constructed of Rising acid-free board laminated with Williams PVA adhesive W.S. 3836.

and covered with a brown Legal Buckrum. I recommend that any catalogue labelling be printed on a conservation grade acid-free paper in order to suit the conservation qualities of the volumes.

Conservation work was also carried out on a small number of documents of special interest. The printed blue paper covers of the Port Stanley newspaper *The Penguin* (for the year 1934), issued as advertising matter by a British mail order house to protect each month's copies, were repaired with a sympathetic blue Japanese Mingei paper. This was left matt on the external surface of the covers and bonded with a heat-set lens tissue on the tears and on the calendered internal surface of the covers. The earliest public record in the Falkland Islands, a late 18th century printed map of the islands showing the voyage of Captain MacBride, which apparently had been scorched and embrittled during the Town Hall fire and subsequently discarded was retrieved, washed, flattened and relined with lens tissue with toned Japanese paper infills in the lacunae. NOTE: It is essential because of the embrittled nature of this document and its extensive cracking that it be mounted in an acid-free board and stored flat and not rolled.

Training and Future Conservation: Though one of the responsibilities of my assignment was to give basic training to a local counterpart, this part of the project was not carried out for the following reasons:

1. Prior to the date of my formal appointment I had a number of radio telephone conversations with the Government Archivist in Port Stanley. During the period of some four weeks between my last call to the Falklands and my departure from Britain, either through an oversight on the part of the Ministry of Overseas Development or the Falkland Islands' Secretariat, Dr. Gifford was not informed that I had actually been appointed and that the conservation project had been authorised by O.D.M. (just as the Secretariat omitted to advise her of the actual date of my arrival in Port Stanley - she was only aware of my imminent arrival through a personal note I had sent on to her by hand) and so was not able to activate the search for a trainee with the positive knowledge that training would be given.

2. After my arrival in Port Stanley I found that neither O.D.M nor the Falkland Islands' Government had authorised funds to pay a trainee's salary nor had they seriously considered the trainee aspect at all. Consequently I felt, because of the urgent need to carry out the actual practical conservation programme, that I should not waste a great deal

of time, energy and motivation in organising trainee funding and appointment authorisation and selection, particularly as individual initiative and decision making in the latter area on my part was not encouraged by the Archivist.

3. The Falkland Islands "suffer" from chronic overemployment. This means that assistance is very difficult to find and a hypothetical position (which as the initial aid request states could not be a full-time one) is not attractive to the male section of the population which predominates in the workforce. This really leaves only adult (usually married with children) women or school leavers. Though it may have been possible with a great deal of energetic proselytising on my part to find a candidate, I doubt whether either category would have been able to provide the commitment, dedication and singlemindedness necessary for a conservation trainee (particularly one who would have to acquire so much knowledge in so short a time).

4. It is doubtful whether such short periods of training can achieve satisfactory results: either the trainee feels a false sense of confidence, and left without supervision may damage valuable material through lack of knowledge or experience; or, on the contrary, may (rightly) feel that he or she cannot operate without further education, which in this case would have to be obtained abroad (with the attendant risk of permanently depriving a community, already alarmingly decreasing in size, of a useful working member).

5. After my appointment I learnt that a well trained paper conservator colleague was of Falkland Islands origin; Jane Cameron (who had trained under the respected Mediaeval manuscript and printed book conservator Sandy Cockerell and now at the Conservation Department of the Bodleian Library, Oxford) who was eager to return to the Falkland Islands to carry out a conservation project for the period necessary, but was not immediately available as she had obligations to the Bodleian Library. In Port Stanley I advised the Government Archivist of Jane Cameron's qualifications and interest in continuing the project, while stressing that her commitments and responsibilities meant that she could not envisage undertaking the move from England to the Falklands for 12 to 18 months. Contrary to my knowledge and advice Jane Cameron was approached through O.D.M. to continue the work after my departure and had to decline the opportunity.

To state the position as of the end of my assignment in December 1978:

I left the Falkland Islands Archives with a well laid out conservation workshop adequately equipped with most basic equipment and with a reservoir of materials (see inventory *Appendix* ), though binding equipment would be needed to continue the work. I calculate that approximately 2 years dedicated full time work would be needed to repair and protect the remainder of the Archives. Conservation quality boxes are urgently needed to store unbound archival material. I am in doubt about the safety of the documents in their new premises. The Falkland Islands Archives have suffered in two previous major fires and are now rehoused in a building, isolated from most community activities, where fire might spread unnoticed, of wooden frame construction with corrugated iron cladding. This building at the time of my departure was not provided with any fire protection, extinguishing or alarm system.

Further conservation work is essential for the future life of these national archives. The need is extremely urgent in the case of the considerable number of mould infested documents. Responsibility obviously rests in the hands of the local administration. If the complete apathy and lack of interest shown in the conservation project in the period I was in Port Stanley (not one member of the Secretariat Staff inspected the conservation work and facilities) is any indication of the future I am not optimistic.

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Copies to:

Falkland Islands Section, Latin America Dept., Ministry of Overseas Development  
The Governor of the Falkland Islands  
The Chief Secretary, Falkland Islands Government  
The Government Archivist, Falkland Island Archives

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APPENDIX: *Inventory of conservation equipment and materials in the conservation laboratory/workshop, Falkland Islands Archives, Port Stanley as on 27 December 1978*

Equipment

2 display portfolios (A1 format) with 20 sleeves  
 2 sheets clear Perspex 600mm x 800mm x 6mm  
 1 stainless steel straight edge  
 1 48 BR straight edge 600mm  
 1 22in Super Tru Trim TT2 rotary cutter  
 1 tacking iron TI  
 1 Ademco 1316 Hardbed Press, with attachments  
 2 photographic developing trays, 20in x 16in  
 2 white enamel washing trays  
 4 beakers (graduated, polythene 100ml)  
 1 beaker (graduated, polythene 500ml)  
 1 stainless steel beaker 1000ml  
 Miscellaneous glassware: measuring cylinders  
 Pyrex beakers etc.  
 1 photographic warming plate  
 1 Baby Belling cooker  
 1 20 litre polythene carboy with tap  
 1 electric kettle  
 1 anglepoise lamp  
 2 x 56lb weights  
 Assorted iron weights  
 1 Micron lightbox  
 1 set of scales and weights  
 Chip-board pressing boards

Materials

Silicon release paper, 16 x 20 in  
 Glazed Lamatec laminating tissue, 30in x 30in, 500 sheets approx.  
 PTFE cloth  
 Japanese repair papers: Kozu shi laid, Shoji laid, Hosho sized laid, Hosho-shi laid, Gampi tissue, Usumino 2, Kawasaki.  
 1 Feltex Mat 15in x 18in  
 Legal Buckrum bookbinding cloth  
 Polyvinal acetate adhesive, Williams WS 3836  
 White blotting paper (2 reams approx.)  
 Area bonded fibre laminating material  
 Calcium hydroxide  
 Gelatine granules  
 Potato starch  
 Rice starch  
 Wheat starch  
 Thymol Synchemica  
 Chloroform  
 Toluene  
 Acetone  
 Formaldehyde