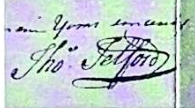


**THE EXHIBITION**  
Foreword by the Chairman

Most civil engineers when given the opportunity show an interest in the superseded instruments, materials and equipment which enabled them and their predecessors to practice their profession. This collection spans about 150 years from the time of Telford, the Institution's first President, almost to that of the 130th incumbent of this office, Dr Hambly. Both Presidents have contributed to the exhibition directly and also in the abstract by emphasising the importance of the Institution's **learning** role. Today members and guests are invited to follow this precept and with the catalogue in hand to appreciate something of the practice and work of our predecessors many of whose achievements continue to make a valuable contribution to our present-day quality of life.

The collection now comprising 130 items contains such diverse treasures as, original Telford letters, specimens of iron from 19th century world record-breaking bridge spans and Sir J W Gordon's fine oil painting of eminent Scottish Engineer, Thomas Grainger, founder of the notable Edinburgh firm of Grainger and Miller. More comprehensively, our holding covers surveying and drawing instruments, flow meters and aids to calculation. It embraces the development of surveying instruments from beautifully crafted brass examples with 18in telescopes and 4 levelling screws to their modern compact counterparts. Somewhat atypical of this development by 1900 is the splendid brass transit instrument with 30in telescope used for setting out Talla Aqueduct. Its mode of use exercised the columns of *New Civil Engineer* in 1987 as can be seen in the display. Among several instruments with fascinating associations is Thomas Carfrae's much worn level (Item 77/005). It is of great interest for its probable



use in Edinburgh's Mound Water Tunnel in 1850, possibly with the miner's dial (Item 77/007). Also, on Carfrae's detailed survey of the line for Grainger and Miller's and George Stephenson's proposed steam-locomotive operated railway from Edinburgh to Glasgow in 1830-31, eleven years before the present inter-city main line engineered by Miller was eventually opened.

During the past eight years, managing and developing what has become one of the finest collections of its kind outside the major museums, establishing it in its new home and mounting this exhibition have called for much dedicated effort and generosity. It gives me great pleasure therefore to conclude by thanking each of my fellow committee members for their valuable contributions, particularly Professor Paul Jowitt, Head of the Department of Civil and Offshore Engineering for hosting the collection on behalf of Heriot-Watt University, to Mr James Dignan and the Department's technicians for preparing the exhibition infrastructure, including the Gattonside Bridge display to Mrs Fay Fyfe's ingenious design, and production of this leaflet; to Borders Regional Council Roads Department and Travers Morgan for the use of Gattonside Bridge drawings and photographs; to Charles Roe for his foresight in forming the collection and his continued support; to Dr George Hazel and Lothian Transportation Department for support and provision of the catalogue ably computerised by Dr David McGuigan, to Dr David Bryden and the National Museums of Scotland for advice and helping to transfer the collection and to all other contributors, not least, our generous donors and Dr Hambly for opening the exhibition.

Roland Paxton



THE INSTITUTION OF CIVIL ENGINEERS  
EDINBURGH AND EAST OF SCOTLAND  
ASSOCIATION



# MUSEUM COLLECTION

*re-opening at the new location of the*  
Department of Civil  
and Offshore Engineering  
**Heriot-Watt University**  
by  
**Dr. Edmund Hambly**  
*President of the Institution*

**23rd November 1994**

CIVIL AND  
OFFSHORE  
ENGINEERING

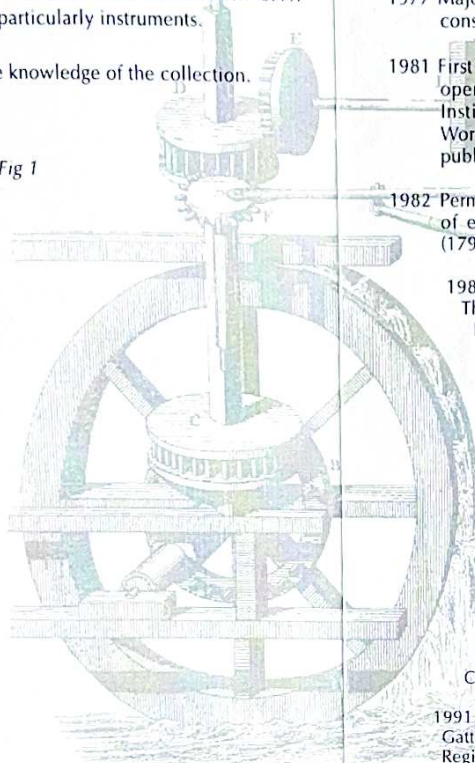
430

## OBJECTIVES OF THE MUSEUM COMMITTEE

On behalf of the Edinburgh and East of Scotland Association of the Institution of Civil Engineers, to form and develop a permanent collection of historical artefacts associated with civil engineers, particularly instruments.

To promote knowledge of the collection.

Fig 1



## BRIEF CHRONOLOGY OF THE COLLECTION

1971 Founded by Charles Roe, when Chairman of the Association, with several items from the late J M Mackintosh MBE. Museum Committee formed with Charles Roe, Chairman, the late Ronald Noble, Roland Paxton and the late Charles Smith OBE.

1972 Permanent loan agreement with the Royal Scottish Museum for storage and curation.

1973 Major donation of instruments from the City Engineer's Department, Edinburgh.

1977 Major donation of items dating from 1830 from consultant engineers Carfrae & Morrison.

1981 First major exhibition at Royal Scottish Museum opened by J W Baxter CBE, Chairman of the Institution's Panel for Historical Engineering Works. Illustrated catalogue containing 84 items published.

1982 Permanent loan from the Institution of oil painting of eminent local engineer Thomas Grainger (1794-1852).

1986 Charles Roe resigned his chairmanship of The Committee and was succeeded by Roland Paxton.

1986-89 The National Museums of Scotland, of which The Royal Scottish Museum had become a part, had for some time been indicating their inability for policy reasons to continue the permanent loan agreement and it became necessary to find another home for the collection.

1987 Major donation of Talla Aqueduct transit instrument from Lothian Region Water & Drainage Department.

1990 Permanent loan agreement with The Department of Civil and Offshore Engineering at Heriot-Watt University. Collection transferred.

1991 Weighty donation of original ironwork from Gattonside Suspension Bridge 1826 by Borders Regional Council. The Committee was pleased to be able to re-donate duplicate components to The Science Museum, London, for display.

1992-94 Preparation of storage and display area at the internal foyer entrance to Civil and Offshore Engineering at Heriot-Watt University.

## PRESENT MEMBERSHIP OF THE COMMITTEE

Professor Roland Paxton, Chairman  
Dr. David McGuigan, Secretary  
Mrs Fay Fyfe  
Professor Paul Jowitt  
Charles Roe  
Ted Ruddock

Ex Officio: Current Chairman and Secretary,  
Edinburgh & East of Scotland  
Association of The Institution.



Fig 2

Fig 1: Boring wooden pipes by water power.  
Late 18th C.

Fig 2: Section of bored wooden water pipe  
c 1800 from Dunfermline. Item 73/037.