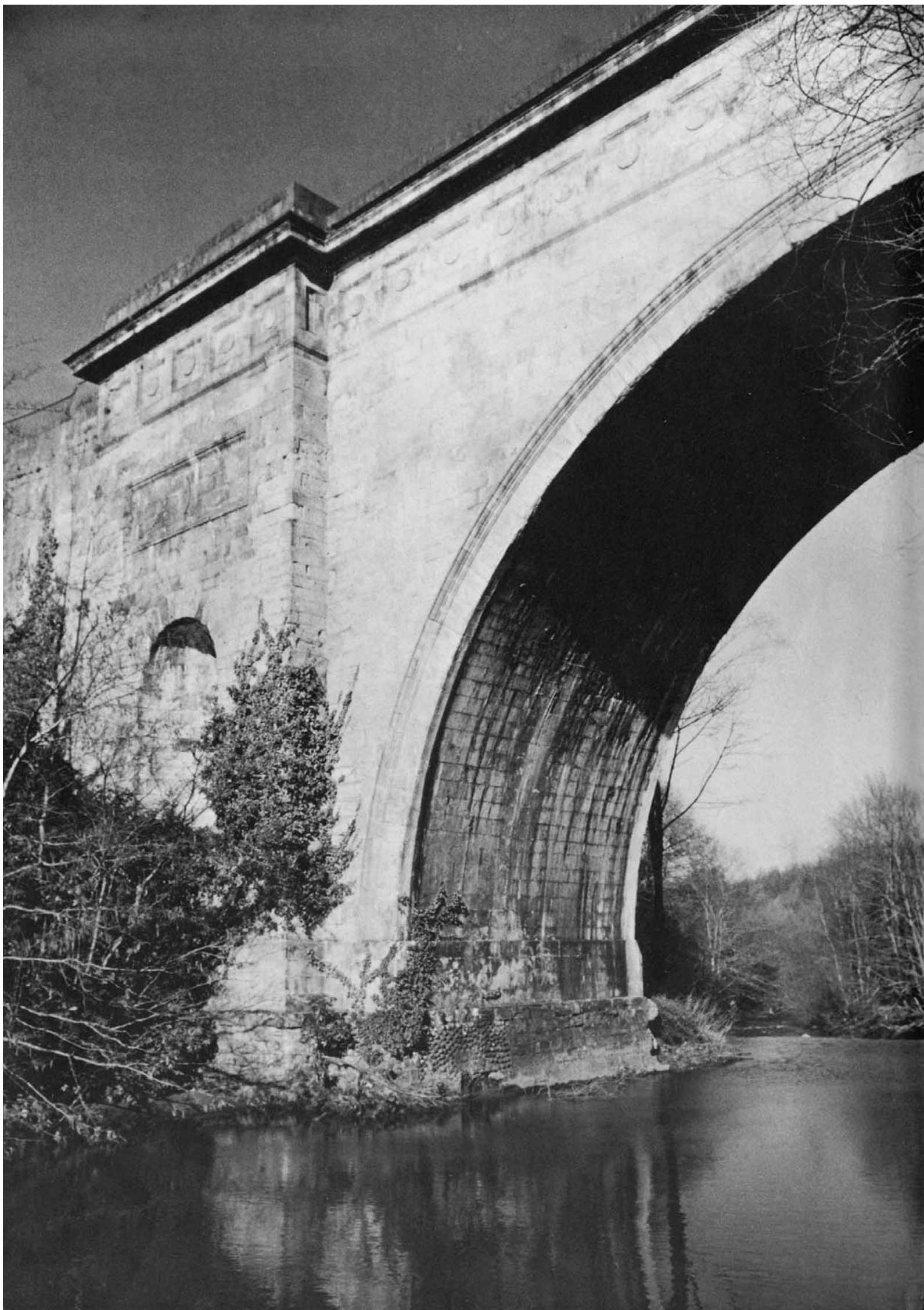


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**ARCH BRIDGES AND THEIR BUILDERS**  
**1735-1835**



**TED RUDDOCK**

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 The Director of Engineering Services, West Yorkshire Metropolitan County Council (figs 23, 24)

## PREFACE

On a family walk on a Sunday afternoon in September 1969 this book was born. Passing under Dean Bridge for perhaps the fiftieth time I wondered afresh why Telford made it such an unusual shape. I thought I might spend a little time in the library the next day to see if I could find any clue to his motive. It was the first historical research I had ever done and I expected it to take a few hours. I have actually written the answer to the question about Dean Bridge, for the first time, eight years later, and at the end of this book, not the beginning. For I found that it was built at the end of a century of great developments in arch bridges. I have now specified the century as 1735–1835: 1735 marks the starting of Westminster Bridge, the first modern bridge over the Thames and the first bridge to be built in London for over five hundred years; 1835 marks the completion of the Broomielaw Bridge in Glasgow and thus ends the career of Thomas Telford, the last great bridge designer of the pre-railway age.

The story of bridge-building is primarily a story of men, from lords to labourers and architects to astronomers, so I have tried to write a book for all men – and women – to read. I have had to use the technical terms of bridge-building, but many of them are explained when they first occur in the narrative and I have also included a glossary at the end of the book. In addition I would recommend the inexpensive *Illustrated glossary of architecture 850–1830* by J. Harris and J. Lever (Faber and Faber, London, 1966 and 1969) in which every term listed is illustrated by a photograph.

For specialist readers I have endeavoured to make the book a thorough reference work by providing extensive notes and bibliography, four appendices, and a tabulated index of bridges as well as the general index. All dates have been converted to new style, but the few dimensions of foreign bridges are quoted directly from the sources noted without converting them to English measure.

This book could not have been written without the assistance of many people, including official bodies, the

staffs of libraries and archives, experts who shared their knowledge with me and friends who gave me hospitality on my travels. I hope that many will accept this tribute as their own and forgive my naming only a few. I have benefited repeatedly from discussions with three men who never refused me their time or access to their own researches. They are Professor Alec Skempton of Imperial College, London, Roland Paxton of the Lothian Region Department of Highways, and my colleague at Edinburgh University, Malcolm Higgs. Eddie MacParland of Trinity College, Dublin, made my work in Ireland very much quicker by directing me to interesting bridges and records as soon as I arrived there. Miss Jean Mylne of Great Amwell has welcomed me to her home many times to work on the precious books and manuscripts of her family. Amongst the staffs of libraries I owe most to those of the Institution of Civil Engineers, the Royal Society of London, the National Library of Scotland and the University of Edinburgh. I have also learned, from calls at many of them, to expect excellent service at the County Record Offices of England and Wales.

My first financial help was in two grants from the Edinburgh University Travel and Research Fund in 1970 and 1971. The Nuffield Foundation made me a larger grant in 1973 and the University then allowed me two terms' leave of absence for study and travel.

I must also express my gratitude to Mrs Marjory Waterston who typed the manuscript, and to several members of the Cambridge University Press for their encouragement, particularly Mr Anthony Parker who advised me at the outset to write the book I wanted to write, and then persuaded the Press to publish it.

I have left until last my wife and three sons. They have tolerated my obsession cheerfully, shared it occasionally and now express relief at its fulfilment in this book. I share their relief.

TED RUDDOCK

*Edinburgh*  
*September 1977*