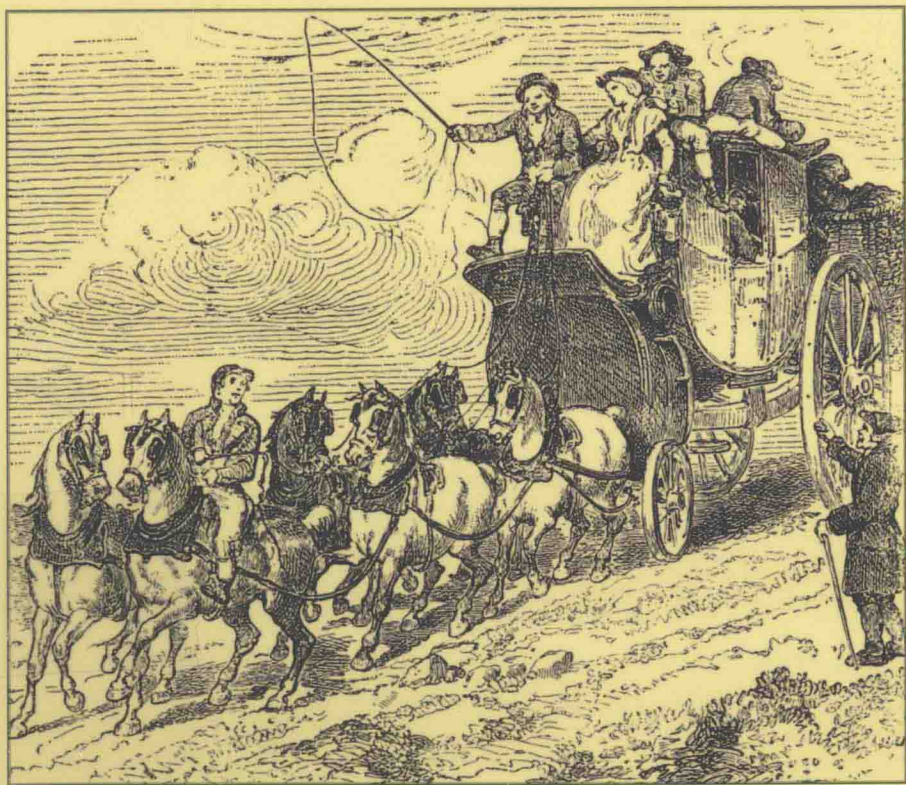


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# A TREATISE ON ROADS

HENRY PARNELL



CAMBRIDGE

# A Treatise on Roads

*Wherein the Principles on which Roads  
Should be Made are Explained and Illustrated,  
by the Plans, Specifications, and Contracts  
Made Use of by Thomas Telford, Esq.,  
on the Holyhead Road*

HENRY PARNELL



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A  
TREATISE  
ON  
R O A D S;  
WHEREIN  
THE PRINCIPLES ON WHICH ROADS SHOULD  
BE MADE  
ARE EXPLAINED AND ILLUSTRATED,  
BY  
THE PLANS, SPECIFICATIONS, AND CONTRACTS  
MADE USE OF BY  
THOMAS TELFORD, ESQ.  
ON THE HOLYHEAD ROAD.

*Second Edition.*

BY  
THE RIGHT HONOURABLE  
SIR HENRY PARNELL, BART.  
HONORARY MEMBER OF THE INSTITUTION OF CIVIL ENGINEERS,  
LONDON.

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## PREFACE

TO THE SECOND EDITION.

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SINCE the first edition of this Treatise on Roads was published, a work has appeared, entitled “The Life of Thomas Telford, Esq., written by himself,” which contains the following passages relative to this Treatise, and to the circumstances which afforded the author that particular kind of knowledge which enabled him to write it:—

“ It has already been stated, that, on Lord Oriel’s retiring from public life, Sir Henry Parnell, member of parliament for Queen’s County in Ireland, and since for Dundee in Scotland, was not only the principal instrument in carrying the Holyhead Road Bills through parliament, but has ever since continued to be the most efficient of the commissioners. Fully impressed with the importance of rendering the communication between London and Dublin perfect, he has, during the last twenty years, applied himself to this object, for effecting which both talents and management have been required, as well as perseverance.

## PREFACE.

“ 1st, He had to convince government of the advantages to be derived from the scheme, and induce them to furnish the means of defraying the expense; 2d, to procure the consent of all the numerous, and in some instances turbulent, bodies of local trustees, upon an extensive line of road; and, 3d, to arrange the sea communication between Holyhead and Dublin; for which purpose the harbour of Holyhead was improved, in a manner which has rendered it serviceable as a harbour of refuge, far beyond the immediate purpose of protection of the packets; and a harbour has also been made at Howth, northward of the city of Dublin. All this he has effectually accomplished, and by extending his services beyond the usual duties of a parliamentary commissioner, and therein devoting much of his time to the personal inspection of practical operations, he has acquired so perfect a knowledge of road-making in all its branches, as has enabled him to produce the most valuable Treatise which has appeared in England, on the history, principles, and practice of that species of national improvement.”

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## TREATISE ON ROADS.

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### INTRODUCTION.

WHEN society has attained a high degree of industry and wealth, so many persons and goods are set in motion for the purpose of administering to its business and its luxuries, that the construction of public roads in such a manner as to admit of safe and rapid transport, and of the reduction of the cost of carriage to the lowest possible amount, becomes matter of the greatest importance.

To explain how these objects may be best secured is the purpose of the following pages.

The measures necessary for affording the means of travelling with rapidity and safety, and of transporting goods at low rates of carriage, form an essential part of the domestic arrangements of every people. Roads are, in point of fact, necessary ingredients in the first change that every rude

country must undergo in emerging from poverty and barbarism. It is, therefore, one of the most important duties of government to enact such laws, and provide such means, as are requisite for the structure and maintenance of well-made roads throughout the territory under its authority.

M. Storch most correctly says, that, "after giving protection to property and person, a government can bestow on a nation no greater benefit than the improvement of its harbours, canals, and roads."\*

Speaking of roads, the Abbé Reynal justly remarks, "Let us travel over all the countries of the earth, and whenever we shall find no facility of travelling from a city to a town, or from a village to a hamlet, we may pronounce the people to be barbarians."

It has been well said by a writer in the first volume of the Communications to the Board of Agriculture, that "the conveniencies and beneficial consequences which result from a free and easy communication between different parts of a country are so various, the advantages of them so generally and so extensively felt by every description of individuals from the highest to the lowest, that no labour or expense should be spared in providing them. Roads, canals, and navigable rivers, may be justly considered as the veins and arteries through which all improvements flow. How many places in almost every country might be rendered

\* Cours d'Economie Politique, vol. i. p. 188.

doubly valuable, if access to them were practicable and easy !”

Adam Smith says, “Good roads, canals, and navigable rivers, by diminishing the expense of carriage, put the remote parts of a country nearly on a level with those in the neighbourhood of a town ; they are, upon that account, the greatest of all improvements.”

To establish perfect roads throughout a country is an object of no small importance as regards public economy. In proportion as roads are level and hard, will there be a saving of horse labour, a cheaper description of horse may be employed, less food will be consumed, and fewer servants wanted. The expense of travelling, and the charges for the carriage of goods, will be lower. A saving to the public, amounting in the aggregate to a considerable sum, will thus annually take place, to be applied either to the accumulation of national capital, or to some other purpose.

It will be useful, previously to showing what is necessary to be done in order to secure good roads in this country, to mention the conduct of other nations in this branch of domestic economy.

A description of this kind may serve to give a better tone to the ideas of those country gentlemen, who are trustees of the public in the management of its roads, and may encourage them to form a more enlarged, and more correct conception of their duties and their responsibility.

The following quotations are taken from the French Encyclopædia, under the head of *Chemin*.