

# **INTRODUCTION TO THE STUDY OF MODERN FOREST ECONOMY**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649615483

Introduction to the Study of Modern Forest Economy by John Croumbie Brown

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.  
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

[www.triestepublishing.com](http://www.triestepublishing.com)

**JOHN CROUMBIE BROWN**

**INTRODUCTION TO THE  
STUDY OF MODERN  
FOREST ECONOMY**



#

INTRODUCTION TO THE STUDY

OF

**MODERN FOREST ECONOMY.**

BY

**JOHN CROUMBIE BROWN, LL.D.,**

*Formerly Lecturer on Botany in University and King's College, Aberdeen ;  
subsequently Colonial Botanist at Cape of Good Hope, and Professor  
of Botany in the South African College, Capetown ; Fellow of the  
Linnean Society ; Fellow of the Royal Geographical Society ; and  
Honorary Vice-President of the African Institute of Paris.*

---

EDINBURGH:  
OLIVER AND BOYD, TWEEBDDALE COURT.  
LONDON: SIMPKIN, MARSHALL, & CO.,  
AND WILLIAM RIDER & SON.  
MONTREAL: DAWSON BROTHERS.

1884.

## P R E F A C E.

---

IN the Spring of 1877, while measures were being taken for the formation of an Arboretum in Edinburgh, knowing something of the constitution and of the work of Schools of Forestry on the Continent, of what was required in order to the economic and efficient conservation, exploitation, and extension of existing forests in our Colonies, and of the studies and mode of study pursued in the University, and in the Watt Institute in that city, I issued a pamphlet entitled *The Schools of Forestry in Europe: a Plea for the Creation of a School of Forestry in connection with the Arboretum at Edinburgh*, which was addressed 'To the Right Honourable the Lord Provost, the Magistrates, and the Town Councillors of Edinburgh; to the Office-Bearers of the Scottish Arboricultural Society; to the promoters of the purchase of ground at Inverleith to be transferred to Government for the formation of an Arboretum; and all others whom it may concern.'

In this I submitted for consideration the opinion 'that with the acquisition of the Arboretum, and with the existing arrangements for study in the University of Edinburgh, and in the Watt Institute and School of Arts, there are required only facilities for the study of what is known on the Continent as Forest Science, to enable these Institutions conjointly, or any one of them with the

help of the others, to take a place amongst the most completely equipped Schools of Forestry in Europe, and to undertake the training of foresters for the discharge of such duties as are now required of them in India, in our Colonies, and at home.' And I gave detailed information how this might be accomplished, specifying existing classes in which what was necessary was now being taught.

The estate at Inverleith has since been acquired at an expenditure, it is said, of £20,000—it has been transferred to the Government—and it is being converted into an Arboretum, such as was contemplated. And at a meeting held on the 28th of March last year, presided over by the Marquis of Lothian, while the assemblage was representative of all interests—scientific, practical, and professional—it was resolved:—'That it is expedient in the interests of forestry, and to promote a movement for the establishment of a National School of Forestry in Scotland, as well as with the view of furthering and stimulating a greater improvement in the scientific management of woods in Scotland and the sister countries which has manifested itself during recent years, that there should be held in Edinburgh, during 1884, and at such season of the year as may be arranged, an International Exhibition of forest products and other objects of interest connected with forestry.' It was then moved, seconded, and agreed:—'That this meeting pledges itself to give its hearty co-operation and patronage to the promotion of an International Forestry Exhibition in Edinburgh in 1884; and those present resolve to give their best efforts and endeavours to render the Exhibition a success, and of such importance and general interest as to make it worthy of the name of International.'

It is in accordance with this resolution, and in discharge of obligations which it imposed, that the following volume has been prepared.

There is, I find, a general impression that the work of a forester is very simple work: he has just to plant seedlings or saplings supplied to him by the nurseryman; to thin out what can be best spared, when, as they grow, they begin to crowd one another; to prune off, if necessary, useless branches; to keep up a good undergrowth to afford shelter to game; and to superintend the felling of trees when they have reached their maturity. And it is thought there is no great need for any School of Forestry or for any training for such work other than may be acquired by acting for some time as a forester's assistant. This, it is thought, may supply in time to come, as it has often done in time past, all that is required to fit the forester to do all that.—And in regard to the forthcoming exhibition again and again I have been told, 'I wonder what you will get to exhibit.' I have no means of knowing to what extent these views may be shared by my readers. But I hope they know better. As botany, contrary to the supposition of many that it only concerns itself with the long unpronounceable Latin and Greek names given to plants, relates to *every thing pertaining to vegetation*, so forestry or forest science, *Forstwissenschaft*, contrary to the opinion that it is limited in its sphere as the opinions I have referred to imply, relates to everything connected with forests or pertaining thereto—EVERYTHING.

It does not come within the scope of my present undertaking to attempt to demonstrate this; but having affirmed it I publish the following Introduction to the Study of



Forestry, hoping by the perusal of it, some may be prepared with greater advantage to visit the Exhibition which in a few months will be opened in the capital.

The following treatises have also been prepared and published with a view of introducing British students of Forest Science to views entertained by many on the Continent, and the appliance of them to practical questions which are cropping up amongst us :—

*The Schools of Forestry in Europe*: a Plea for the Creation of a School of Forestry in Edinburgh; *The Forests of England*; and the Management of them in Bygone Times; *French Forest Ordinance of 1669*; with Historical Sketch of previous Treatment of Forests in France; *Forests and Forestry of Finland*, embodying a discussion of the advantages and disadvantages of *Svedjande*, the *Sartage* of France, the *Koomarsee* of India; *Forests and Forestry of Northern Russia*, embodying details of the Exploitation of Forests by *Jardinage*, and its effects; *Pine Plantations on Sand Wastes in France*; *Reboisement in France*, or, Records of the Replanting of the Alps, the Cevennes, and the Pyrenees with Trees, Herbage, and Bush, with a view to arresting and preventing the destructive consequences of torrents; *Forests and Moisture*, or effects of Forests on Humidity of Climate; *Hydrology of South Africa*, or, Details of the former Hydrographic Condition of the Cape of Good Hope, and of Causes of its present Aridity, with Suggestions of appropriate Remedies for this Aridity; *Water Supply of South Africa*, and Facilities for the Storage of it.

JOHN C. BROWN.

HADDINGTON, 1st May, 1884.

# CONTENTS.

---

	PAGE
OVERTURE, . . . . .	1-4
<b>PART I.—THE EXTENSIVE DESTRUCTION OF FORESTS.</b>	
<b>CHAPTER I.—<i>Preliminary Statement,</i></b> . . . . .	<b>5-13</b>
Original production of Forests (p. 5); Consequences of the Destruction of Forests (p. 10).	
<b>CHAPTER II.—<i>Ancient Forests of Europe,</i></b> . . . . .	<b>14-29</b>
Ancient Forest-Covering of Europe (p. 14); Existing Remains of Ancient Forests: Greece (p. 16), Turkey (p. 17), Russia (p. 17), Siberia (p. 20), Poland (p. 21), Hungary and Austria (p. 22), Scandinavia (p. 23), Italy (p. 25), Spain (p. 26), Britain (p. 27).	
<b>CHAPTER III.—<i>The Disappearance of Forests in Europe,</i></b> . . . . .	<b>30-37</b>
Natural Decay and Reproduction (p. 30); Progressive Destruction by Man beyond Restoration by Natural Reproduction (p. 33), and the Result (p. 37).	
<b>CHAPTER IV.—<i>Evils which have Followed the Extensive Destruction of Forests in Europe,</i></b> . . . . .	<b>38-101</b>
<b>SECTION A.—<i>Scarcity of Timber and Firewood,</i></b> . . . . .	<b>38-89</b>
<b>SECTION B.—<i>Drought,</i></b> . . . . .	<b>40-56</b>
General Statement (p. 40); Illustrations supplied from Algeria (p. 42); Statements by Schlisden (p. 48), and by Fries (p. 49); Illustrations supplied from South Africa (p. 51).	

	PAGE
<b>SECTION C.—Floods, Inundations, and Torrents,</b>	56-84
France (p. 57), Spain (p. 58), Hungary (p. 64), Cape of Good Hope (p. 65); Origin of Floods and Characteristics of Inundations (p. 66); Preventive Operation of Forests when occasioned by Rainfall (p. 67), or by the sudden Melting of Snow (p. 73), with Illustrations supplied from the Department of Vaucluse, in France (p. 75); Testimony by M. Jules Clavé (p. 79); Remarks on the Inundation of Toulouse, by the <i>Journal des Débats</i> (p. 81); and Discussion of Principles involved (p. 82).	
<b>SECTION D.—Torrents, Avalanches, and Landslips,</b>	84-95
Statements in regard to Torrents (p. 84); in regard to Avalanches (p. 87); and in regard to Landslips (p. 90).	
<b>SECTION E.—Sand-Drifts,</b>	95-101
Remains of former Forests in Sand Plains (p. 95); Illustration of Effects of Destruction of Trees on Sand Plains supplied by Drift-Sands in the vicinity of Danzig (p. 96); Remarks by Surell (p. 100).	
—	
<b>PART II.—ELEMENTS OF MODERN FOREST ECONOMY,</b>	102-104
<b>CHAPTER I.—Forest Conservation,</b>	105-106
<b>CHAPTER II.—Reboisement,</b>	106-130
<b>SECTION A.—General Advantages Resulting from Reboisement Experienced in Algeria,</b>	108-110
<b>SECTION B.—Effects of Reboisement in Arresting and Preventing the Occurrence of Torrents and Inundations,</b>	110-120
Statements by M. Gentil (p. 113); by M. Delafont (p. 115); by M. Surell (p. 116); by Vicomte de Bonald (p. 117); by <i>Edinburgh Review</i> (p. 117); and by Budget Committee of National Assembly of France (p. 118.)	