

COLIN PRICE

LANDSCAPE  
ECONOMICS



# Landscape Economics

Colin Price

# Landscape Economics

Second Edition

palgrave  
macmillan

Colin Price  
Gwynedd, UK

ISBN 978-3-319-54872-2      ISBN 978-3-319-54873-9 (eBook)  
DOI 10.1007/978-3-319-54873-9

Library of Congress Control Number: 2017948300

1st edition: © Macmillan London 1978

2nd edition: © The Editor(s) (if applicable) and The Author(s) 2017

This work is subject to copyright. All rights are solely and exclusively licensed by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Cover illustration: Llyn Peris and Llanberis Slate Quarry in Snowdonia National Park. Photo by the author

Printed on acid-free paper

This Palgrave Macmillan imprint is published by Springer Nature  
The registered company is Springer International Publishing AG  
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

*To the memory of Herbert Gatliff, and to all who encouraged me  
in believing that it matters.*

## Preface to the Second Edition

*Landscape Economics* was written 40 years ago. Since then, the subject area has gradually acquired recognition, and has almost become part of mainstream environmental economics. Books have been written which fall within its ambit. But still, I have not noticed any systematic study of its scope. Many of the pitfalls that the book outlined have been duly fallen into. Several of the crucial issues it identified have remained unexplored.

In the meantime, I have had the good fortune to become more widely acquainted with the landscape of the United Kingdom and diverse countries abroad. I have been enriched by many conversations with landscape designers, planners, land users, environmental economists—and, as the specialism has become better defined, landscape economists. The first edition drew its references largely from contributing disciplines, and from the work of the small number of eccentrics who had already begun to explore the field: for this second edition, there is a considerable body of work within the field of landscape economics itself, and in wider environmental economics references are so copious that massive selectivity has been necessary. No

comprehensive review is offered, though attention is drawn to some existing reviews. I have referred to items as they bear on my line of arguments—opposing it as well as in support. Many of the original references have been retained, if only to indicate the origins of the subject.

Since the first edition appeared, I have spent a working life lecturing on natural resource and environmental economics, and on landscape design. I have spoken at numerous conferences, and written many papers and book chapters on the subject matter of this book. As predicted, my views have changed somewhat. Still, they do not always reflect the views and preoccupations of mainstream environmental economists.

The first edition was aimed at a British readership, and drew its examples from the United Kingdom. Since then, populations have become more mobile, and academic study has embraced, as a matter of custom, a wider geographical range, not infrequently all the Earth's surface. This change is reflected, in the second edition, in a wider selection of landscapes, and of political economies within which landscape is designed and appraised. An emphasis remains on the United Kingdom, with whose landscape—physical and political—I remain most familiar: I write “from inside” this landscape still. A continuing predilection for my home discipline of forestry may be noted. I have also retained case studies from the first edition's era: these were the real context out of which the subject of landscape economics evolved.

In my travels across the world's surface, I have photographed thousands of landscapes, and hundreds of instances of aesthetic degradation: thus I have the means to meet a criticism made of the first edition of the book, that a work on such a topic should have been abundantly illustrated.

In the years leading up to and following the shift between millennia, the world's political economy has changed greatly. With the decline of Marxism and the spread of capitalist ideology, some issues concerning the landscape, such as industrial and urban expansion, have become more urgent, while the political means to interpret and solve them have altered. The increasing prominence given to creating markets for environmental goods has brought hope that non-regulatory measures might achieve the right balance between landscape and material production:

but not everyone believes that the bland theory can make effective practice.

The first edition was written with an optimistic view that social cost–benefit analysis provided the means of giving due weight to each argument. Time has overtaken the optimism about actual application. I still think, however, that the ideal is worth working towards: that view still conditions what I have to say. There remains, too, the same mix as in the first edition: of formal economics learned and taught; of experience and anecdote; of reflection and common sense; of rigid analysis and whimsical speculation. It was written in a personal style, and I have retained that in the second edition: partly to lighten what has a tendency to be a turgidly thorough account, and partly because landscape values are deeply imbued with subjective preference.

The first edition defined landscape as “the perceived environment which results from the interaction of the earth’s resources and human-kind’s needs”. Since then the European Landscape Convention has adopted the broadly similar “Landscape means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors.” Such a definition is not uncontested. For ecologists, a landscape is an extensive, spatially contiguous, patchwork territory occupied by a set of interacting organisms. For political scientists, landscape may express power relations. Etymologically, “land” suggests a bordered area with connotations of ownership, while “scape” refers to shaping or working of land (Jormakka 2012; Thompson et al. 2013). The sensory meaning came only later, with artistic depictions.

The perceptual definition is, however, commonly recognised by public and politicians alike, and the economics of landscape is discussed in such a sense by this book. It is not doubted that ecological, political and historical definitions describe a concept about which an economic study could be made, but this study is not it.

I have retained the first edition’s perspective, from the landscape end, in search of economic ways of resolving problems, rather than from the economics end, looking for cases to which techniques can be applied. Statistical analysis is needed to get the best out of data, but that is not my specialism or orientation. When I first began to think about landscape economics, I had a rosy vision, that if one put all the data about



what people did and said about landscape into a computer, it would somehow answer every question about value, and point to each correct decision. I have lived in the real world for nearly 50 years since then.

Nonetheless, the intended readerships include economists with an interest in land use, as well as landscape architects, planners, geographers and other land specialists with an interest in economics. Students and practitioners have been in mind. Writing for these diverse readerships has posed problems. Mainstream economists will find that I have explained ideas with which they are completely familiar, whereas newcomers may find that I have not explained them enough. I have tried to find the right compromise.

After an introductory chapter, Chaps. 2 and 3 look at costs of landscape. Chapters 4 and 5 explore the kinds of value produced by landscape, and how they might be systematised. Chapters 6 and 10–15 deal with methods used to place a value on landscape, while Chaps. 7–9 discuss the decision frameworks which might combine such values. Chapter 16 considers how passing time might affect values. Chapter 17 presents some valuation case studies. Chapter 18 widens valuation to the national perspective, while Chap. 19 reviews how desired aesthetic land use might be achieved. The final chapter looks at systems of landscapes and landscape protection.

## Further Acknowledgements

In addition to those mentioned in the preface to the first edition, I thank the following for various help: Dick Brazee, Geoff Bright, Johanna Choumert Nkolo, Simon Cox, Marian Dragoi, Alison Evans, Guy Garrod, Ulrich Hampicke, Jette Bredahl Jacobsen, Glyn Jones, Dilip Kumar, Eifiona Thomas Lane, Robert Lifran, Marlene Marques, Peter Midmore, Alex Moiseyev, Walid Oueslati, Sanjeeva Pandey, Russ Parsons, Marianne Penker, Bronwen Price, Tom Price, Ann Reisner, Pere Riera, Maggie Roe, Julian Salanié, Tiziano Tempesta, Ian Thompson, Emma Waterton, Ken Willis, the estate of the late Dennis Wood and all the many who responded to requests for information. How I have used their comments and material is my own responsibility.

I am also grateful to those at Palgrave Macmillan who steered the book through publication with patience and diligence: Lynda Cooper, Thomas Coughlan, Gemma Leigh, Anna Reeve, Rachel Sangster.

Gwynedd, UK

Colin Price

## References

- Jormakka, K. (2012). Theoretical landscapes. In S. Bell., I. S. Herlin., & R. Stiles. (Eds.), *Exploring the boundaries of landscape architecture*. (pp. 15–40). Abingdon: Routledge.
- Thompson, I., Howard, P., and Waterton, E. (2013). Introduction. In Howard et al. (Eds.), *The Routledge companion to landscape studies* (pp. 1–7). Abingdon: Routledge.

## Preface to the First Edition

The choice of title – *Landscape Economics*, and not *The Economics of Landscape* – is deliberate. There seems to be no definitive body of knowledge that a book with the latter title might summarise. The field of landscape *evaluation* is developing, or at least proliferating, rapidly, but most researchers seem to have resisted the impulse to give an economic dimension to their assessments. As for economists, the strong subjective component of landscape value has dissuaded them from applying their science in the field.

Therefore, I have done no more than suggest which approaches to the topic might be adopted, and what the relevant variables might be, should it be thought desirable or necessary to develop a discipline. Although I have applied some of the techniques, much of the material is provisional and has not previously been offered for critical comment. My own ideas changed so much while I was writing the book that I should be surprised if I continued to subscribe to every statement. They are ideas to explore, develop, modify or reject, not to accord the sanctity of established fact. Similarly, many statements may need qualification, but I have preferred not to obstruct the flow of thought by being over-meticulous.

This is not, either, a handbook of aesthetics-by-economic-methods: aesthetic principles are not enumerated or explored. I am not proposing a complete substitute for landscape designers; but a tool that can make their work more accountable – in two senses – to the public, whom ultimately they should serve.

The advantages of studying the value of landscape from an economist's perspective became clear to me over a number of years spent peripherally involved in countryside decision-making. I adopted the viewpoint with no sense of delight in the philosophical perverseness of it, but as something which needed to be done. The analytical approach to beauty has not yielded much enjoyment, and sometimes it has depressed immensely. I, like many critics of the outlined approach, would prefer to walk through a world of beauty forever unthreatened, forever intuitively appealing.

But examining the viewpoint of the academic economist has convinced me that economic purism, pressed too far, simply prevents the achievement of any useful result. The customary plea for an interdisciplinary approach does not ask enough; for, if advances are to be made, economists, landscape architects and political scientists must come prepared not only to collaborate, but also to abandon some of their cherished preconditions for analysis. What I have written has assumed that such flexibility is acceptable, and it will no doubt on that account be considered trivial by purists.

While the book is aimed primarily at economists with an interest in land use, it is also relevant to landscape architects, planners and, indeed, anyone who has to do with land management. In order to make the terminology intelligible to the non-specialist without confounding the text too much with irritating parenthesis, I have explained the more technical terms in a glossary.

...

What pleasure the analytical approach to landscape does afford me comes through discussion with academic colleagues. I am most of all grateful to Peter Greig of the Forests Commission, Victoria, Australia. Our arguments over two years provided a great deal of material for the book. I also acknowledge with pleasure the contributions of Jim MacGregor and Rodney Helliwell. Thanks are due to Peter Conlon,

Roger Cooper, Pat Denne, Don Harding and Eleanor Price for their comments on parts or the whole of earlier drafts; and to the very many people who have, over the years, done their best to persuade me that I was wasting my time – their arguments have been the most inspiring of all.

# Contents

<b>1</b>	<b>The First Hurdle</b>	1
	Objections to Explicit Valuation Techniques	6
	References	9
<b>2</b>	<b>The Costs of Landscape</b>	11
	Financial Costings	11
	Factors of Production in a Landscape	12
	Costing a Project	18
	Opportunity Costs	20
	Unit Costs of Landscape	23
	Inadequacies in the Unit-Cost Approach	26
	Cost of Landscape as Implied Benefit	27
	References	29
<b>3</b>	<b>Opportunity Costing of Land: For Landscape Professionals, or for Land Economists?</b>	31
	Stock Resources and the Time Dimension	31

	An Excursion into Forest Economics	34
	Externalities	36
	Climate Change	36
	Spatial Externalities	37
	Renewable Energy Versus Landscape	37
	Does Social Pricing Go on for Ever?	39
	Probabilistic Evaluation and Hope Values	40
	Setting a Boundary	41
	References	42
<b>4</b>	<b>The Constitution of Value</b>	<b>45</b>
	Defining the Quantum of Landscape	45
	Consumption of Characteristics	48
	Aesthetic Quality	49
	Normality	49
	Peculiarity	54
	Diversity	55
	Familiarity	56
	Stability	58
	Variability in Value of Consumer-Hours	59
	Interfaces of Demands	61
	Passive Use Value: A Benefit to Absentees	62
	Landscape as Producers' Good	64
	Landscape as Medication	65
	Landscape as Social Therapy	67
	Landscape as Merit Good	68
	References	69
<b>5</b>	<b>Aesthetic Experts' Approaches</b>	<b>73</b>
	Systematising Aesthetics: Landscape Assessment	74
	Preferences and Principles	75
	Quantifying Aesthetics: Holistic Systems	77
	Quantifying Aesthetics: Components Systems	80
	Subjectivity and Related Words	82
	Problems of Ordinal Scales	83
	A Short History of Landscape Evaluation?	85

Representative Evaluation	86
Elitist View	86
Paternalist View	87
Populist View	90
Creative Expertise	91
“The Expert Seal of Approval”?	93
References	95
<b>6 Monetising Expert Valuations: Examples with Amenity Trees</b>	99
The CTLA and Cost-Based Methods	99
Criticisms of the CTLA Method	102
Subjectivity of Judgment	102
Cardinality of Scales	102
Multiplicative Treatment	102
The Basic Cost	103
The Helliwell Method	105
Other Methods	108
Helliwell and CTLA Compared	109
References	110
<b>7 The Democratic Alternative</b>	113
The Landscape “Problem”	114
Democracy: Which People’s Voice Speaks?	115
Participatory Voting and Intensity of Preference	116
Voting with Paired Choices—Condorcet’s Paradox	117
Dividing and Ruling	118
A Single Transferable Vote	119
Inquiries and Democratic Discussion Fora: Qualitative and Quantitative Evidence	120
Formal Inquiries	121
Participatory Decision-making	126
Representing Intensity of Preference	129
References	131



<b>8</b>	<b>Cost–Benefit Analysis and Willingness to Pay for Landscape</b>	133
	The Nature of Cost–Benefit Analysis	134
	Origins and Applications of Cost–Benefit Analysis	134
	Willingness to Pay as the Value Measure	137
	Willingness to Pay and Welfare Improvement	139
	Price Changes and Different Forms of Cost–Benefit Analysis	143
	Cost–Benefit Analysis and the Social Value of Resources	145
	Double Counting and Transfers	146
	Risk and Uncertainty	147
	Alternative Means of Aggregation	148
	References	148
<b>9</b>	<b>Critiques of Cost–benefit Analysis—and of Alternative Processes</b>	151
	Economic Critiques	151
	Political Critiques	152
	Philosophical and Psychological Critiques	153
	Critiques of Utility-Maximising Decision-Making	154
	Sagoff's Critique	154
	Risk/threat	155
	Prospect Theory	156
	How Options are Viewed: Near Misses	156
	Proportional Saving Counts	156
	Same Present Choice, Different History	157
	The Value of Certainty	157
	Context of Choice: Mental Accounts	158
	The Irrelevance of Not-adopted Alternatives	158
	Pre-commitment to Restrict Future Choices	159
	Choosing Not to Choose	160
	Outcome Versus Process: Gambling for Gain or for Loss?	160
	Critique of the Critiques of Cost–benefit Analysis	161
	Decision Constructors and Outcome Bearers	163
	Rational Decision Making, CBA and Participation	165

Cost–benefit Analysis and Voting Democracy:	
A Comparison	165
References	167
<b>10 Markets and Quasi-Markets</b>	<b>169</b>
Actual Payment to Access Proprietary Landscape	169
Subscriptions and Donations	171
Free Riding and Warm Glowing	173
Purchase of Provenanced or Certified Goods	175
References	177
<b>11 Stated Preference Questionnaires</b>	<b>179</b>
The Hypothetical Question	182
Communication Problems	183
Information—Too Little or Too Much?	184
Presentation Bias	185
Leading	186
Open-Ended vs Dichotomous Choice Questions	188
Strategic Bias	189
Truth-Regarding	192
Cheap Talk	192
Incentive Compatibility	192
Willingness to Play, Pay and Accept	193
Scoping and Embedding	195
Retrograde Information Bias	198
Instant Expertise	198
Headlining	199
No Knowledge Is No Obstacle ...	201
Endemic Bias Between Sample and Population	201
Overview	202
Choice Experiments	202
Benefits Transfer	204
Selection of Attributes	204
Contingent Referenda	205
The Problem with Good Citizens	206
Best of All Formats?	208

From Point Estimates to Population Demand Curves	209
Concluding Comments	210
Validity	210
Expert Consensus?	211
Landscape Change	212
Sine qua non Criteria	212
References	213
<b>12 The Statistical Basis of Valuation: The Hedonic House Price Model</b>	<b>223</b>
Origins and Methods of Hedonic Pricing	223
Supply of Views, Price of Views and Consumer's Surplus	226
Decomposing the Landscape	228
Statistical Problems with HPM	229
Defining the Variables	229
Missing and Superfluous Variables	230
Measuring the Attributes	231
Defining Category Boundaries	232
Conflicting Coefficients	232
Functional Form	233
Additive Separability	234
Interaction of Variables: Composition	234
Interaction of Variables: Competition	235
The Nub of the Problem	236
Degree of Fit of the Model	237
Collinearity with Non-aesthetic Variables	238
HPM and Macrolocation	240
Other Constituents of Demand	241
Precomposition	243
References	243
<b>13 Visited, Traversed and Conjectured Landscape</b>	<b>249</b>
The Visited Landscape	249
Problems for the Travel Cost Method	253
Imperfect Knowledge of Travel Cost	253
Valuation of Time	254

Leisure Travel as a Benefit	254
Time on Site	255
Time as Expenditure	255
Heterogeneous Transport Modes	255
Transformation and Weighting in Travel	
Cost Regressions	256
Expenditure on Accommodation in Scenic Areas	256
Heterogeneous Distribution of WTP Across Zones	256
Zonal versus Individual Models	257
Site Substitution	258
Applications	260
Problems of Hedonic Interpretation	261
Multiple Site Visits	261
Interaction of Scenes	262
Actual Results	263
Other Constituents of Demand	263
TCM and Familiarity	265
Traversed Landscape and Route Choice	267
Conjectured Landscape	269
Conclusions	270
References	270
<b>14 Controlled and Creative Subjectivity: Expert Mediation in Aesthetic Valuation</b>	273
Making Expertise Serviceable	274
Cardinalising the Quality Scale	275
Visited and Traversed Landscapes	278
Inhabited Landscape	279
Conjectured Landscapes	280
Why Cardinalise the Aesthetic Scale?	281
<i>Valuing</i> Intervals on the Aesthetic Scale	281
Adjusting for Peculiarity and Diversity: Visited Landscape	284
Adding Familiarity and Stability	286
Inhabited Landscape	288

Traversed Landscape	289
Conclusion	291
References	291
<b>15 The Utility Effects of Landscape Change</b>	<b>295</b>
Monetising Change	296
Contingent Valuation	296
Recompiling Landscape	296
Judging on an Aesthetic Scale	297
Proportional Change	297
Chancing It	298
Familiarity	302
Strategies for Inhabited Landscape	302
Scenic Values from New Housing	305
Detriment to Visited Landscape	306
Abstainers	306
Substituters	307
Sufferers	308
Strategic Choice	308
Sufferers	312
Distribution of Strategies Along the Demand Curve	313
Landscape Improvements	315
References	318
<b>16 Values Over Time</b>	<b>321</b>
The Changing Condition of Future Landscape	321
Participation in Experience	326
Constituents of Demand and Changing Taste	330
Discounting Future Values	333
Pure Time Preference	335
Diminishing Marginal Utility of Consumption	337
Technology, Transportation and Diminishing Value of a Site	340
Technological Emulation of the Multisensory Landscape Experience	342

Application in Inhabited, Traversed and Conjectured Landscapes	343
The Market Rate of Return and the Compensation Fund	343
Uncertainty	345
Declining Discount Rate	346
Time Profile of Effects and WTP	348
Duration of Change	349
Sustainability	353
Conclusions	356
References	357
<b>17 Pragmatic Case Studies</b>	361
Increasing the Electricity Supply to Skye	361
Background	361
Elements of the Problem	362
Quantifying Landscape Quality and Impact	365
Collating the Data	370
Sensitivity Analysis	373
Reflections	374
Quick Estimates Based on the Bergin/Price/Thomas Approach	376
Farm Woodlands in Wales	376
Woodlands in South-West England (EKOS et al. 2009)	377
Urban Tree-Planting Schemes in North-East England (Cobham Resource Consultants and Price 1990)	378
References	380
<b>18 Macroeconomic Effects</b>	383
Green Infrastructure	384
Tourism Earnings	386
Income Distribution	389
References	391

<b>19</b>	<b>Implementing Desired Solutions</b>	393
	The Public Sector	393
	The Private Sector	394
	Proscriptive Legislation	394
	Prescriptive Legislation	394
	Moral Suasion	395
	Financial Incentives	395
	Rent Seeking and Distribution	398
	Institutions	398
	The Third Sector	399
	Selecting Landscape Projects	400
	References	400
<b>20</b>	<b>Not a Featureless Plain</b>	403
	Perils of Single Site Appraisal	404
	Ubiquitous Multiple Use	404
	Economies of Scale	404
	Ubiquitous Solutions	406
	Standardised Analysis	407
	Broadening the Analysis	408
	Simulation and Optimisation Approaches	408
	Protected Landscapes	409
	Designations	413
	International Union for Conservation of Nature (IUCN)	414
	United Nations Educational, Scientific and Cultural Organization (UNESCO)	414
	Nationwide Designation: The UK Example	414
	Degrees of Protection	416
	Protecting a UK Portfolio	416
	Decision Criteria in Protected Areas—Absolutism	418
	Ecological Laisser-faire	418
	Customary Management	419
	Prettification	419

Tendentious Cost–benefit Analysis	421
“Ordinary” Landscape	422
Prospect and Retrospect	425
References	428
<b>Appendix A: Unit Costs in a Discounting Framework</b>	431
<b>Appendix B: The Area under the Demand Curve</b>	433
Postscript	437
References	437
<b>Appendix C: The Net Present Value of Expanding Future Visitation</b>	439
Note	440
<b>Appendix D: The Insignificance of Non-collectible Benefits</b>	441
References	442
<b>Appendix E: Land-Use Selection When Discounting is not Invariably Practised</b>	443
<b>Glossary</b>	445
<b>Index</b>	451



# List of Figures

Fig. 1.1	Grizedale Forest: landscape being contemplated, and possibly pondered?	2
Fig. 1.2	German park in the English style, English weather included: Branitz, laid out for the aesthetic pleasure of its owner	5
Fig. 2.1	Ring of Brodgar, Orkney—a landscape for Neolithic rituals, created by applying much human labour, at a meeting of land and sea and sky	14
Fig. 2.2	Great Wall of China as landscape feature	15
Fig. 2.3	Stourhead, aesthetic pleasure achieved at the expense of productive land, cohorts of labour, and much raw material, brought into being at no small risk, under the enterprising hand of the owner, Henry Hoare II	17
Fig. 2.4	Dyfi Forest: irregular boundaries are expensive to fence	19
Fig. 2.5	“Improvement” of pasture on moorland and afforestation with exotic conifers, deemed detrimental aesthetically, were both driven by UK government subsidy in the mid twentieth century	24
Fig. 2.6	Landscape impact of electricity transmission line at Coedydd Aber Nature Reserve	25

Fig. 3.1	Strip mining near Cottbus, Germany. Sterilising development would have had a one-off opportunity cost—but of delay, rather than total loss, of opportunity	34
Fig. 3.2	Forgoing maximum forest profit in Snowdonia National Park, Wales	35
Fig. 3.3	Bujagali Falls, Uganda, on a branch of the River Nile: a tourist attraction now submerged for hydroelectric development	38
Fig. 4.1	Unightly erosion of perceived natural habitat: South-west Coast Path at Nancekuke, Cornwall—public bad arising from public good	48
Fig. 4.2	Matterhorn/Monte Cervino, on the Swiss/Italian border: un-despoiled naturalness, symmetry without geometry, stimulating contrasts, integrity through snow's tone reflecting the land form and through shadows' tone projecting it: ingredients of high aesthetic quality as now perceived. Was it always thus?	50
Fig. 4.3	Versailles, exemplar of Le Nôtre's formal design	51
Fig. 4.4	Cley Windmill, a cherished and distinctive feature of the East Anglian landscape; traditional Portuguese windmill	53
Fig. 4.5	Burrough Hill, Leicestershire: the landscape of fields, hedgerows and small woods is admired for its characteristic "Englishness"	53
Fig. 4.6	Landscapes for different psychological propensities. Clockwise from <i>top left</i> : South Korean mountains; Charnwood Forest; Parc Faenol, North Wales; South Downs	55
Fig. 4.7	Bradgate Park, seen from Beacon Hill, part of the distinctive Charnian landscape	57
Fig. 4.8	Stability affronted and affirmed. Clockwise from <i>top left</i> : new road under construction; seasonal cycle of traditional agriculture; alpaca grazing vs scrub encroachment; ephemeral dawn	59
Fig. 4.9	The diversity of European landscape experience. Clockwise from <i>left</i> : English Fenland, Norwegian fjordland, Fenno-Russian forest, Italian cityscape	60

Fig. 4.10	Sidmouth, Devon, a holiday landscape refreshing the mind for more work—or inducing thoughts of early retirement?	65
Fig. 5.1	Top of the range—spectacular landscape at Romsdalsfjord, Norway	79
Fig. 5.2	Oldbury Nuclear Power Station, in a landscape of modest quality, seen by many people	84
Fig. 5.3	The Lake District: a coal miner's son and his associates misguidedly believe they are gaining material benefit from this beautiful region	87
Fig. 5.4	Liverpool Metropolitan Cathedral, an unabashed exemplar of modernist architecture	92
Fig. 5.5	Sylvia Crowe designed earthworks and tree planting for Wylfa Nuclear Power Station, which hides some clutter at its base. That does not imply that the whole structure improves the landscape. Nor should it imply her overall approval of the project	94
Fig. 6.1	Profiles of cost of tree loss: cost in arbitrary units	105
Fig. 6.2	Contentious contextualisation	107
Fig. 7.1	Distribution of strength of feeling	116
Fig. 7.2	<i>Après nous, le Deluge</i> : two public inquiries preceded the contentious flooding of the North Tyne Valley	122
Fig. 8.1	Buying landscape experience at the toll house for Llandudno's Marine Drive	135
Fig. 8.2	Room with a view: the estate village of Edensor was moved from this site to improve the prospect from Chatsworth House. The spire of the new church on the other side of the ridge can just be seen	141
Fig. 8.3	Various accounts of value through CBA	144
Fig. 10.1	Chalk cliff charging—but for what?	170
Fig. 10.2	Subscriptions and donations to the Woodland Trust	172
Fig. 10.3	Voluntary donation at a National Trust property: economically irrational?	174
Fig. 10.4	Almost as Constable saw it, and keeping it that way	174
Fig. 11.1	Newborough Beach, location for contentious change	186
Fig. 11.2	<i>WHAT</i> are you willing to pay for? Answer, apparently, soil carbon storage and so on, as well as landscape preservation	199

Fig. 12.1	Houses in Bangor with superb mountain views command only a modest premium, because they form a large proportion of the housing stock. This view is seen from what was formerly low-rent public housing	227
Fig. 12.2	Trees and housing in Charleston, South Carolina. Studies in the south-eastern United States found that proximity of trees added 3–7% to a basic house price	228
Fig. 12.3	“Millionaires’ Row”, Llandudno, where some of Wales’s most expensive properties are located. The properties have extensive sea and mountain views. Structural attributes of the houses reflect builders’ expectations of householders’ income	239
Fig. 13.1	The Grand Canyon in the USA, an early object of TCM: not possible to transport to the doorstep of every would-be consumer	250
Fig. 13.2	The estimated gross demand curve	253
Fig. 13.3	Substitution-adjustment by extrapolation	260
Fig. 13.4	No landscape is an island entire of itself. Losing one type of UK landscape diminishes the contribution to diversity value of every other. Clockwise from <i>top left</i> : Derwentwater, Lake District; Acle, Norfolk Broads; Start Point, Devon; Long Mynd, Shropshire	265
Fig. 13.5	Route network showing extra cost of including scenic route in journeys between paired A–B origin/destinations	268
Fig. 13.6	Uluru, a landscape feature sacred to local population, recognised by people around the world who will never see it	269
Fig. 14.1	Typical result (from a set of 27) of a landscape walkabout	275
Fig. 14.2	Grades on an ordinal scale of quality	277
Fig. 14.3	Willingness to travel to different landscape qualities	282
Fig. 14.4	Tallinn, Estonia. In this landscape of arrestingly medieval buildings, experts may be atypically affronted by the disharmonious “big M” (doesn’t stand for Medieval)	285
Fig. 14.5	Durham and its World Heritage Site cathedral. An estate agent volunteered that £30,000 (1990) was added to a house’s sale price because of this view	289

Fig. 15.1	Think before answering: should I envisage that my gamble affects just this viewing, or all experiences of this view across Windermere to Langdale, or all experiences of landscape? Incidentally, this was my first sight of the Lake District, captivating me for ever	300
Fig. 15.2	Temporary sea view—enjoyed during a pause in development at Port Penrhyn, Bangor	305
Fig. 15.3	Dense recent development in Durham: pleasing variety within a revived architectural style, period street furniture, tree planting (which however needs a little more space, so fewer houses)	307
Fig. 15.4	“Would you come back, if the landscape changed to look like this?” Most people would: I do. Ratcliffe-on-Soar Power Station intrudes only briefly on a largely unaffected sequence of aesthetic experiences	309
Fig. 15.5	Value contributed by one site to a system of sites: representative result	312
Fig. 15.6	Schematic representation of loss to sufferers: the dark segment represents continuing costs	313
Fig. 15.7	Telecommunications mast at Copt Oak, Charnwood Forest; Millersdale Viaduct, Peak District National Park	316
Fig. 15.8	Vyrnwy Reservoir, a scenic attraction generating visits which would not otherwise have been made; yet some regret loss of the former village and valley-bottom farmscape, even 130 years after its flooding	317
Fig. 16.1	Bottle kiln in the Potteries, an almost vanished industrial landscape	323
Fig. 16.2	Future disbenefit, with possible obsolescence of development	324
Fig. 16.3	Future disbenefit, with natural softening	325
Fig. 16.4	Time changes things that humans made. Clockwise from <i>top left</i> <b>a</b> 25 years of natural succession ameliorates Bersham spoil heap in the Wrexham Coalfield; <b>b</b> colonising lichens and mosses soften the patina of an asbestos barn roof, Hangingstone, Charnwood Forest; <b>c</b> concrete ages drably, Bangor car park; <b>d</b> cliff erosion threatens a stone bank boundary, North Cornwall coast	325

Fig. 16.5	Lost forms of agriculture have aesthetic charm as well as cultural interest: relics of rigg-and-furrow ploughing at Simonburn, Northumberland	333
Fig. 16.6	Alternative ways with discounting	339
Fig. 16.7	Locally characteristic field boundaries in deterioration and decline, Vale of Clwyd	342
Fig. 16.8	A passing phase? Wind turbines can be dismantled if changing circumstances make aesthetic values greater than conflicting material ones	350
Fig. 16.9	Here to stay: Trwafynydd Nuclear Power Station within the Snowdonia National Park	351
Fig. 16.10	Cotswold Water Park—from detestable gravel working to desirable waterside residence	352
Fig. 16.11	As you were: back-filling, tree planting and even depositing angular rocks on the ridge attempt to restore the landscape of Bardon Hill, Charnwood Forest to pre-quarrying state	352
Fig. 17.1	<b>a</b> The Five Sisters of Kintail Forest from near Shiel Bridge. <b>b</b> Loch Hourn and Ladhar Bheinn from west of Kinloch Hourn	366
Fig. 17.2	A (primitive) visualisation of how the transmission line would affect the view, where it crosses Glen Quoich	369
Fig. 17.3	Effect on value of increasing visits, diminishing marginal utility and possible obsolescence	372
Fig. 17.4	Value profile of the scheme	379
Fig. 18.1	A little greenery goes a long way, in attracting footloose economic activities to remote areas needing employment: Pwllheli, Wales	385
Fig. 18.2	Mt Balwangan, South Korea: life-size silhouettes reproduce a famous scene from <i>Winter Sonata</i> , on a themed tourist trail. Atmosphere at no extra charge	388
Fig. 18.3	Cityscapes with famous buildings arrayed, symbols of power and wealth, earners of foreign exchange: clockwise from <i>top left</i> , London, Paris, Kuala Lumpur, New York, Florence	388
Fig. 19.1	Private provision of public amenity: Bloomsbury, London	396