

Durham E-Theses

*Newburn Manor: an analysis of a changing medieval,
post-medieval and early modern landscape in
Newcastle Upon Tyne*

Jennifer Morrison

How to cite:

Morrison, Jennifer (2007) Newburn Manor: an analysis of a changing medieval, post-medieval and early modern landscape in Newcastle Upon Tyne. Masters thesis, Durham University.

Use policy

The full-text may be used and/or reproduced, and given to third parties in any format or medium, without prior permission or charge, for personal research or study, educational, or not-for-profit purposes provided that:

- a full bibliographic reference is made to the original source
- a <https://etheses.durham.ac.uk/id/eprint/2924/> is made to the metadata record in Durham E-Theses
- the full-text is not changed in any way

The full-text must not be sold in any format or medium without the formal permission of the copyright holders.

Please consult the [full Durham E-Theses policy](#) for further details.

Newburn Manor – An Analysis Of A Changing Medieval, Post-Medieval And Early Modern Landscape In Newcastle Upon Tyne

Volume One (of Two)



Newburn Haugh on the River Tyne (copyright Newcastle City Council, City Repro, 1983)

Jennifer Morrison

Thesis submitted for degree of Master of Arts

University of Durham
Department of Archaeology

2007



18 APR 2008

Contents

Volume one

Abstract		1
Declaration		2
Acknowledgements		3
Abbreviations		4
Chapter One	Introduction	5
1.1	Justification of area	7
1.2	Newburn – historical and administrative background	11
1.3	Geology	14
1.4	Methodology	15
1.4.1	Sources of evidence	17
1.5	Key themes	20
Chapter Two	Township by Township	22
2.1	Butterlaw	22
2.2	Dewley	30
2.3	Newburn	36
2.4	Newburn Hall including Lemington	45
2.5	Throckley	54
2.6	Walbottle	64
2.7	Whorlton	75
2.8	Conclusion	84
Chapter Three	Agricultural Change	88
3.1	Agriculture	88
3.1.1	Arable	88
3.1.2	The open fields	88
3.1.3	Crops	97
3.1.4	Agricultural Revolution	99
3.1.5	High Farming	101
3.2	Meadow	102
3.3	Pasture	104
3.4	Discussion	107
3.5	Enclosure	108
3.6	Parliamentary Enclosure	109
3.7	Discussion	113
3.8	Field boundaries	117
3.9	Parish and township boundaries	121
3.10	Woodland	124
3.11	Commons and Waste	133
Chapter Four	Extractive Industries	136
4.1	Coal Mining	136
4.1.1	Early coal pits	136
4.1.2	Post medieval mining	138
4.1.3	Nineteenth century mining	149
4.2	Quarrying	161
4.3	Brick Works	168

Chapter Five	Manufacturing and production	171
5.1	Milling and mills	172
5.2	Fisheries	178
5.3	Waterworks	182
5.4	Glassmaking	186
5.5	Lead	189
5.6	Iron Works	190
5.7	Steelworks	193
Chapter Six	Transportation by river and road	200
6.1	River transport and Improvements	200
6.2	Roads	207
6.2.1	Medieval roads	207
6.2.2	Turnpikes and toll roads	211
6.2.3	Enclosure period roads	215
6.2.4	Modern roads	219
Chapter Seven	Waggonways and Railways	220
7.1	Waggonways	220
7.2	Railways	233
Chapter Eight	Settlement and Buildings	238
8.1	Medieval settlement and buildings	238
8.2	Farms	250
8.3	Post Medieval buildings	264
8.4	Transformation from agricultural settlement to colliery village	268
8.4.1	Patronage	269
8.4.1.1	John Spencer	269
8.4.1.2	The Stephensons and Throckley Coal Company	273
8.4.1.3	Walbottle and Walbottle Colliery	277
8.4.2	Purpose-built industrial settlements	282
8.4.2.1	Lemington	282
8.4.2.2	Blucher	284
8.4.2.3	North Walbottle	285
8.5	Country houses	287
Chapter Nine	Conclusions	295
9.1	Impact of enclosure	296
9.2	Impact of industry	300
9.3	Archaeological survival	303
9.4	Landowners and agencies of landscape change	304
9.5	Key themes	312
9.6	Limitations of this work	313
9.7	Summary	316
Bibliography		319

List of tables

Table 1	Timeline	85
Table 2	Nineteenth century crop yields	98
Table 3	Division of land between arable and pasture	105
Table 4	Medieval mining	137
Table 5	Sixteenth to eighteenth century mining	139
Table 6	Eighteenth century mining, Newburn & Newburn Hall	143
Table 7	Eighteenth century mining, Throckley	144
Table 8	Eighteenth century mining, Walbottle	146
Table 9	Pits owned by Walbottle Colliery	150
Table 10	Pits owned by Throckley Colliery	153
Table 11	Quarrying	163
Table 12	Brickmaking	170
Table 13	Mills	173
Table 14	Fisheries	179
Table 15	Waggonways	222
Table 16	Chapel House Farm	252
Table 17	Farms	253
Table 18	Spencer family building projects	270
Table 19	Buildings erected by the Stephensons or Throckley Coal Company	275
Table 20	Historic buildings in Walbottle	279
Table 21	Country houses	289

List of illustrations

Figure 1	Location map of Tyne and Wear and Newcastle	8
Figure 2	Location plan of study area	8
Figure 3	Photograph of gravestone of Robert Hawthorn	10
Figure 4	Photograph of monument to Newburn Battlefield	11
Figure 5	Photograph of NUDC Offices	13
Figure 6	Photographs of New Burn and Reigh Burn	15
Figure 7	Section of Speed's map of 1611	18
Figure 8	Section of Jansson's map of 1646	19
Figure 9	Photograph of Butterlaw Farm	23
Figure 10	Photograph of earthworks at Butterlaw	24
Figure 11	Aerial photograph of Butterlaw Crofts 1974	25
Figure 12	Aerial photograph of Butterlaw 1974	26
Figure 13	Photograph of cottages at Callerton	28
Figure 14	Photograph of Poacher's Cottage public house	28
Figure 15	Photograph of Dewley Hill	30
Figure 16	Aerial photograph of Dewley 1974	33
Figure 17	Photograph of spoil mound at Dewley	34
Figure 18	Aerial photograph of Dewley 1991	35
Figure 19	Plan of Newburn village 1849	38
Figure 20	Photograph of Newburn High Street	39
Figure 21	Photograph of Newburn High Street	40
Figure 22	T.M. Richardson's painting of Newburn 1800	41
Figure 23	Plan of Newburn village 1858	41
Figure 24	Plan of Newburn village 1898	42
Figure 25	Photograph of Newburn riverside 1899	42
Figure 26	Postcard of Newburn High Street 1900	43
Figure 27	Postcard of Newburn High Street 1912	43
Figure 28	Photograph of Newburn High Street 1913	44
Figure 29	Section of plan of Lemington 1620	47
Figure 30	Aerial Photograph of Lemington Gut	49
Figure 31	Aerial photograph of Newburn Haugh	50
Figure 32	Plan of Lemington 1897	51
Figure 33	Photograph of Lemington Cemetery	52
Figure 34	Photograph of Lemington power station	53
Figure 35	Photograph of housing estate, Throckley	54
Figure 36	Plan of Throckley village 1736	57
Figure 37	Plan of Throckley village 1781	58
Figure 38	Plan of Throckley village 1805	59
Figure 39	Plan of Throckley village 1847	60
Figure 40	Plan of Throckley village 1858	61
Figure 41	Photograph of old walls, Hill House Road	62
Figure 42	Photograph of Throckley Quarry	63
Figure 43	Photograph of Walbottle green 1910	66
Figure 44	Photographs of Walbottle institute and green	66
Figure 45	Plan of Walbottle village 1808	67
Figure 46	Plan of Walbottle village 1848	69
Figure 47	Photograph of Old Row, Walbottle 1900	69
Figure 48	Plan of Walbottle village 1858	71
Figure 49	Photograph of Dene Terrace, Walbottle	72
Figure 50	Photograph of High Square, Walbottle 1900	73
Figure 51	Photograph of 1960s housing, Walbottle	73
Figure 52	Photograph of Jingling Gate public house	77
Figure 53	Photograph of Jingling Gate public house	78
Figure 54	Photographs of Whorlton Hall gate lodge	79
Figure 55	Photograph of Church of St. John, Whorlton	79

Figure 56	Photograph of Whorlton School	80
Figure 57	Photograph of Whorlton vicarage and graveyard	81
Figure 58	Photographs of buildings on site of Red Cow Farm	81
Figure 59	Photographs of institute, Hillhead Road	82
Figure 60	Photograph of Westerhope Golf Course	82
Figure 61	Aerial photograph of Whorlton Hall 1991	83
Figure 62	Photograph of gates to Whorlton Hall	84
Figure 63	Location plan of extant ridge and furrow	92
Figure 64	Aerial photograph of ridge and furrow, golf course	93
Figure 65	Aerial photograph of ridge and furrow, golf course	94
Figure 66	Photographs of ridge and furrow, Whorlton	95
Figure 67	Photograph of ridge and furrow, Newburn	96
Figure 68	Photograph of ridge and furrow, Lemington cemetery	96
Figure 69	Photograph of Whorlton Grange	101
Figure 70	Photograph of field boundaries, Throckley Fell	114
Figure 71	Plan showing the enclosure of Throckley Fell	116
Figure 72	Photograph of enclosure period boundary, Walbottle	119
Figure 73	Photograph of township boundary, Throckley	123
Figure 74	Section of Horsley's map of 1753	126
Figure 75	Photograph of woodland, Westerhope golf course	127
Figure 76	Section of Armstrong's map of 1789	128
Figure 77	Aerial photograph of Walbottle Dene	128
Figure 78	Aerial photograph of Throckley Dene, 1991	129
Figure 79	Photographs of Throckley Dene	130
Figure 80	Photograph of sandstone quarry, Walbottle village	131
Figure 81	Photograph of Foxcover Plantation	132
Figure 82	Tracings of maps of Lemington's coal pits	148
Figure 83	Section of John and William Bell's plan 1847	149
Figure 84	Photograph of Blucher Pit	151
Figure 85	Photographs of colliery buildings, Blucher Pit	151
Figure 86	Aerial photograph of Percy Pit, 1981	152
Figure 87	Photograph of reclaimed Percy Pit	152
Figure 88	Plans of Throckley pits	154
Figure 89	Aerial photograph of Maria Pit	155
Figure 90	Photograph of Isabella Colliery	155
Figure 91	Photograph of Isabella coke ovens	156
Figure 92	Photograph of North Walbottle Colliery	157
Figure 93	Aerial photograph of North Walbottle Colliery	157
Figure 94	Photograph of earthworks at Duke Pit	158
Figure 95	Aerial photograph of Isabella Colliery, 1960	159
Figure 96	Aerial photograph of reclaimed Isabella Colliery, 1991	159
Figure 97	Location plan of coal workings and waggonways	160
Figure 98	Aerial photograph of Walbottle Quarry, 1960	164
Figure 99	Photograph of quarry, Walbottle village	165
Figure 100	Photograph of Throckley Quarry	165
Figure 101	Location plan of quarries and brick works	167
Figure 102	Photograph of Dandy Cart, Throckley 1907	169
Figure 103	Plan of Throckley Mill 1805	177
Figure 104	Photograph of Newburn Mill 1933	177
Figure 105	Photograph of Newburn Pumping Station	182
Figure 106	Photograph of drinking fountain, Walbottle green	183
Figure 107	Photograph of retaining walls, Throckley	184
Figure 108	Photograph of valve house, Throckley	185
Figure 109	Photograph of valve house and filter beds	185
Figure 110	Photograph of filter beds	186
Figure 111	Photograph of Lemington glass cone	187
Figure 112	Photographs of cottages, Lemington	188

Figure 113	Section of Fryer's plan of 1820	189
Figure 114	Tracing of plan of Lemington Iron Works	191
Figure 115	Photographs of Lemington Iron Works	191
Figure 116	Photograph of coke oven/calcining kiln	193
Figure 117	Photograph of steelworks building	194
Figure 118	Photograph of steelworks c.1920	195
Figure 119	Photograph of steelworks	195
Figure 120	Photograph of steelworks chimneys	196
Figure 121	Photograph of steelworks office	197
Figure 122	Photograph of steelworks	198
Figure 123	Photographs of steelworks office	198
Figure 124	Photographs of excavation of steelworks 2006	199
Figure 125	Photograph of River Tyne	200
Figure 126	Photograph of Boathouse Inn	202
Figure 127	Photograph of tide stone	203
Figure 128	Aerial photograph of Lemington Gut, 1981	204
Figure 129	Photograph of Lemington Gut	204
Figure 130	Photograph of Newburn Bridge	205
Figure 131	Plans of river improvement work	206
Figure 132	Photograph of Hospital Lane	208
Figure 133	Photograph of Millfield Lane	208
Figure 134	Photograph of Coach Lane	209
Figure 135	Photograph of lane, Newburn village	209
Figure 136	Photograph of Drove Road, Throckley	210
Figure 137	Photograph of General Wade's Military Road	212
Figure 138	Photographs of milestone	212
Figure 139	Section of Cary's road map of 1789	213
Figure 140	Photograph of Whorlton Lane	215
Figure 141	Photographs of Stamfordham Road	216
Figure 142	Photograph of Lough Bridge	216
Figure 143	Photograph of lane, Whorlton Grange	217
Figure 144	Photograph of lane to Fell House Farm	217
Figure 145	Photograph to Newburn Grange Farm	218
Figure 146	Photograph of Jingling Gate public house	218
Figure 147	Photograph of Wylam Waggonway	224
Figure 148	Photograph of Wylam Waggonway	224
Figure 149	Photograph of skew bridge, Wylam Waggonway	225
Figure 150	Photograph of waggonway, Throckley	225
Figure 151	Section of Gibson's plan of 1787	226
Figure 152	Section of Casson's map of 1804	227
Figure 153	Aerial photograph of waggonway, 1974	228
Figure 154	Photographs of waggonway embankment	228
Figure 155	Photograph of Walbottle Moors Waggonway	229
Figure 156	Aerial photograph of waggonway, 1991	229
Figure 157	Photograph of Throckley waggonway	230
Figure 158	Photograph of North Walbottle Waggonway	230
Figure 159	Photograph of waggonway, Throckley Brickworks	231
Figure 160	Photograph of waggonway, Blucher	232
Figure 161	Section of Greenwood's plan 1827	233
Figure 162	Photograph of NER	234
Figure 163	Photograph of NER	235
Figure 164	Photographs of Lemington and Newburn Hotels	235
Figure 165	Photograph of excavation of waggonway, Throckley	237
Figure 166	Tracing of plan of Throckley village 1620	239
Figure 167	Tracing of plan of 'Newburn towne' 1620	240
Figure 168	Tracing of plan of Walbottle village 1620	240
Figure 169	Phasing plan of Newburn church 1929	242

Figure 170	Drawing of Newburn church 1928	243
Figure 171	Sketch of Newburn church 1826	243
Figure 172	Painting of Newburn church 1840	244
Figure 173	Photograph of Newburn church and churchyard	244
Figure 174	Photograph of rectory	246
Figure 175	Painting of Newburn Hall 1850	247
Figure 176	Drawing of garderobe and Newburn Hall	247
Figure 177	Drawing and photograph of Newburn manor house	249
Figure 178	Drawings of fireplaces, Newburn manor house	250
Figure 179	Location plan of farms	258
Figure 180	Section of Fryer's plan of 1820	260
Figure 181	Section of Greenwood's plan of 1827	261
Figure 182	Photograph of Newburn House	264
Figure 183	Photograph of Duke's House, Newburn	265
Figure 184	Photograph of date stone, Duke's House	266
Figure 185	Postcard of Newburn almshouses	267
Figure 186	Photograph of Newburn almshouses	267
Figure 187	Photograph of Boathouse Inn, Newburn	268
Figure 188	Location plan of Newburn buildings	273
Figure 189	Location plan of Throckley buildings	277
Figure 190	Location plan of Walbottle buildings	281
Figure 191	Location plan of Lemington buildings	284
Figure 192	Location plan of Blucher buildings	285
Figure 193	Aerial photograph of Northumberland Gardens 1991	286
Figure 194	Development of Whorlton Hall	291
Figure 195	Development of Lemington Hall	292
Figure 196	Location plan of country houses	294

Contents

Volume Two

The map work

Section 1.4 in volume one explains the methodology used to create these maps.

Figure 197	Location map of townships within study area	357
Figure 198	Butterlaw in 1620	358
Figure 199	Butterlaw in 1710	358
Figure 200	Butterlaw between 1620 and 1767	359
Figure 201	Butterlaw in 1767	359
Figure 202	Butterlaw between 1767 and 1847	360
Figure 203	Butterlaw in 1847	360
Figure 204	Butterlaw between 1847 and 1898	361
Figure 205	Butterlaw in 1898	361
Figure 206	Butterlaw between 1898 and 1960	362
Figure 207	Butterlaw in 1960	362
Figure 208	Butterlaw – suggested dates of surviving boundaries	363
Figure 209	Dewley in 1620	364
Figure 210	Dewley in 1710	364
Figure 211	Dewley between 1620 and 1767	365
Figure 212	Dewley in 1767	365
Figure 213	Dewley between 1767 and 1848	366
Figure 214	Dewley in 1848	366
Figure 215	Dewley between 1848 and 1898	367
Figure 216	Dewley in 1898	367
Figure 217	Dewley – suggested dates of surviving boundaries	368
Figure 218	Newburn in 1620	369
Figure 219	Newburn between 1620 and 1767	369
Figure 220	Newburn in 1767	370
Figure 221	Newburn between 1767 and 1849	370
Figure 222	Newburn in 1849	371
Figure 223	Newburn between 1849 and 1858	371
Figure 224	Newburn in 1858	372
Figure 225	Newburn between 1858 and 1898	372
Figure 226	Newburn in 1898	373
Figure 227	Newburn between 1898 and 1921	373
Figure 228	Newburn in 1921	374
Figure 229	Newburn between 1921 and 1960	374
Figure 230	Newburn in 1960	375
Figure 231	Newburn – suggested dates of surviving boundaries	376
Figure 232	Newburn Hall in 1620	377
Figure 233	Newburn Hall between 1620 and 1767	377
Figure 234	Newburn Hall in 1767	378
Figure 235	Newburn Hall between 1767 and 1848	378
Figure 236	Newburn Hall in 1848	379
Figure 237	Newburn Hall between 1848 and 1858	379
Figure 238	Newburn Hall in 1858	380
Figure 239	Newburn Hall between 1858 and 1898	380
Figure 240	Newburn Hall in 1898	381
Figure 241	Newburn Hall between 1898 and 1921	381
Figure 242	Newburn Hall in 1921	382
Figure 243	Newburn Hall between 1921 and 1960	382
Figure 244	Newburn Hall in 1960	383

Figure 245	Newburn Hall - suggested dates of surviving boundaries	384
Figure 246	Throckley in 1620	385
Figure 247	Throckley between 1620 and 1736	385
Figure 248	Throckley in 1736	386
Figure 249	Throckley between 1736 and 1805	386
Figure 250	Throckley in 1805	387
Figure 251	Throckley between 1805 and 1858	387
Figure 252	Throckley in 1858	388
Figure 253	Throckley between 1858 and 1898	388
Figure 254	Throckley in 1898	389
Figure 255	Throckley between 1898 and 1921	389
Figure 256	Throckley in 1921	390
Figure 257	Throckley between 1921 and 1960	390
Figure 258	Throckley in 1960	391
Figure 259	Throckley - suggested dates of surviving boundaries	392
Figure 260	Walbottle in 1620	393
Figure 261	Walbottle in 1620, West Field	393
Figure 262	Walbottle in 1620, Quarry Field	394
Figure 263	Walbottle in 1620, East Field	394
Figure 264	Walbottle between 1620 and 1767	395
Figure 265	Walbottle in 1767	395
Figure 266	Part of Walbottle in 1808	396
Figure 267	Walbottle between 1767 and 1848	397
Figure 268	Walbottle in 1848	397
Figure 269	Walbottle between 1848 and 1858	398
Figure 270	Walbottle in 1858	398
Figure 271	Walbottle between 1858 and 1898	399
Figure 272	Walbottle in 1898	399
Figure 273	Walbottle between 1898 and 1921	400
Figure 274	Walbottle in 1921	400
Figure 275	Walbottle - suggested dates of surviving boundaries	401
Figure 276	Whorlton in 1620	402
Figure 277	Whorlton in 1710	402
Figure 278	Whorlton between 1620 and 1767	403
Figure 279	Whorlton in 1767	403
Figure 280	Whorlton between 1767 and 1847	404
Figure 281	Whorlton in 1847	404
Figure 282	Whorlton between 1847 and 1858	405
Figure 283	Whorlton in 1858	405
Figure 284	Whorlton between 1858 and 1898	406
Figure 285	Whorlton in 1898	406
Figure 286	Whorlton between 1898 and 1960	407
Figure 287	Whorlton in 1960	407
Figure 288	Whorlton - suggested dates of surviving boundaries	408

Photographic record to accompany chapter eight

Section 8.2 Farms

Site of early farms:

Figure 289	Plan of Dewley Farm, 1858	409
Figure 290	Photograph of Butterlaw Farm	409

Enclosure period farms:

Figure 291	Photograph of Coally Hill Farm, no date	410
Figure 292	Photograph of Walbottle Fell House Farm	410
Figure 293	Photograph of Newburn Hillhead Farm	411
Figure 294	Photograph of Cutty Coats, c.1970	411
Figure 295	Photograph of Cutty Coats	412

Nineteenth century farms:

Figure 296	Photograph of Newburn Hall Farm, 1978	412
Figure 297	Photograph of Walbottle Dean House	413
Figure 298	Photograph of Newburn Grange Farm	413
Figure 299	Photograph of New Winning Farm, no date	413
Figure 300	Photograph of Cut End Farm, 1910	414
Figure 301	Photograph of Whorlton Grange Farm, no date	414
Figure 302	Photograph of Whorlton Grange Farm	415
Figure 303	Postcard of Walbottle Colliery Farm, no date	415
Figure 304	Photograph of Walbottle Colliery Farm	416

Section 8.4.1.1 The buildings of John Spencer, Newburn

Figure 305	Photograph of cottages, Newburn High Street, 1900	416
Figure 306	Photograph of Warkworth House	417
Figure 307	Photograph of house on Grange Road, Newburn	417
Figure 308	Photograph of Percy Terrace and Duke's Cottages	417
Figure 309	Photograph of terraced houses, Newburn	418
Figure 310	Photograph of Rupert and Berkley Terraces, Newburn	418
Figure 311	Photograph of St. John's Church, Whorlton	419
Figure 312	Photograph of St. Mary's Church, Throckley	419
Figure 313	Photograph of lychgate, Newburn	420
Figure 314	Photographs of Whorlton School 1900 and 2006	420
Figure 315	Photograph of Newburn Manor School	421
Figure 316	Photograph of former school, Newburn High Street	421
Figure 317	Photographs of Wesleyan Sunday School	421
Figure 318	Photograph of Newburn Institute	422
Figure 319	Photographs of other historic buildings in Newburn	422

Section 8.4.1.2 The buildings of the Stephensons and Throckley Coal Company

Figure 320	Photograph of Methodist Chapel, Throckley, 1940s	424
Figure 321	Photograph of Methodist church, Throckley	424
Figure 322	Photograph of Throckley Middle School, 2004	425
Figure 323	Photograph of Hexham Road, Throckley, c.1910	425
Figure 324	Photographs of stone houses, Throckley	426
Figure 325	Photograph of Pine, Beech and Oak Streets	426
Figure 326	Photograph of Hilda and Orchard Terraces	427
Figure 327	Photograph of Blayne Row, Throckley	427
Figure 328	Photograph of Moore Court	427
Figure 329	Photograph of The Leazes, Throckley	428
Figure 330	Photograph of Co-operative store, Throckley	428
Figure 331	Photograph of Workmen's Club, Throckley	428

Section 8.4.1.3 The buildings of Walbottle

Figure 332	Photograph of Walbottle village green	429
Figure 333	Photograph of School Bank, Walbottle	429
Figure 334	Photograph of Segpool House, Walbottle	430
Figure 335	Photographs of other historic buildings, Walbottle	430
Figure 336	Photograph of Walbottle Co-operative Store	432
Figure 337	Photograph of Walbottle Co-operative Store	432

Section 8.4.2.1 The buildings of Lemington

Figure 338	Photograph of Church of Holy Saviour, Lemington	433
Figure 339	Photograph of parish hall, Lemington	433
Figure 340	Photograph of R.C. Church of St. George, Lemington	434
Figure 341	Photograph of R.C. school, Lemington	434
Figure 342	Photograph of Centenary Chapel, Lemington	435
Figure 343	Photograph of Mission Chapel, Lemington	435
Figure 344	Photograph of Primitive Methodist Chapel, Lemington	436
Figure 345	Photograph of Lemington Primary School	436
Figure 346	Photograph of Lemington Social Club	437
Figure 347	Photograph of cottages, Lemington Glassworks	437
Figure 348	Photographs of housing, Lemington	438

Section 8.4.2.2 The buildings of Blucher

Figure 349	Photographs of cottages, Blucher	439
Figure 350	Photograph of Wesleyan Church, Blucher	439
Figure 351	Photograph of Church of St. Cuthbert, Blucher	440
Figure 352	Photograph of social club, Blucher	440

Section 8.4.2.3 The buildings of North Walbottle

Figure 353	Photograph of Coronation Row, North Walbottle	440
Figure 354	Photograph of North View, North Walbottle	441
Figure 355	Photograph of Whorlton Terrace, North Walbottle	441
Figure 356	Photograph of Northumberland Gardens	441

Section 8.5 Country Houses

Figure 357	Aerial photograph of Whorlton Hall, 1991	442
Figure 358	Photographs of Whorlton Hall	442
Figure 359	Photograph of Walbottle House	443
Figure 340	Photograph of Walbottle House and garden	443
Figure 361	Photograph of Walbottle Hall	444
Figure 362	Photograph of Walbottle Hall	444
Figure 363	Photograph of Millfield House, Newburn	444

Appendices

Appendix 1	Mayson's survey of Newburn manor 1613	445
Appendix 2	<i>Inquisition post mortem</i> of Ralf de Neville 1367	446
	Survey of 1559	447
	Cartington's Rental 1499/1500	447

Appendix 3	Apportionment to Newburn Tithe Map 1849	448
Appendix 4	Apportionment to Walbottle Tithe Map 1848	451
Appendix 5	Apportionment to Whorlton Tithe Map 1843	453

Abstract

This thesis is a desk-based archaeological analysis of the historic landscape of Newburn manor, now an urban suburb some five and a half miles west of Newcastle upon Tyne. Despite continuing urbanisation however, this research has shown that landscape features dating back to the earliest periods of settlement survive.

Enclosure and industry have been shown to have been the main historical forces behind landscape change. Agricultural improvement coincided with the process of enclosure and this work has shown clear evidence of the implementation of the type of innovations which typified the periods known as the Agricultural Revolution and era of High Farming. Industry stamped its mark on the rural landscape from the medieval period and in time Newburn developed into an industrial settlement.

The main agency of landscape change was the landowner. This work has demonstrated the integral relationship between people, places and landscape development. In the medieval period the manor remained rural under the ownership of various religious orders, the needs of the landowner being restricted to maintaining self-sufficiency. After the Dissolution, land management under the Earls and Dukes of Northumberland evolved into a commercial enterprise. The manor's agricultural and industrial resources became a source of rental income. Industrial influence has been shown to have extended beyond the sinking of collieries, extraction of quarries and construction of waggonways. Patronage by the industrial magnates of the day was responsible for the transformation of farming and fishing villages into industrial suburbs.

Of greatest importance is the symbiotic connection between the town of Newcastle and its hinterland. During a period of major industrial growth, Newcastle relied on Newburn to supply its markets and industries. Without this provision the town could not have flourished, and without this trade Newburn would not have existed.



Declaration

This thesis is the result of the author's own work. Material from other sources referred to in the text is credited to the relevant authors.

The length of the text of this thesis is approximately 49788 words (excluding tables, figure captions, bibliography and appendices).

The copyright of this thesis rests with the author. No quotation from it should be published in any format, including electronic and the internet, without the author's prior consent. All information derived from this thesis must be acknowledged appropriately.

Acknowledgements

The author would firstly like to thank her supervisors Dr. Chris Gerrard and Dr. Pam Graves for their guidance, enthusiasm and encouragement.

I am indebted to Barbara Harbottle, former Tyne and Wear County Archaeologist, who created the Sites and Monuments Record, now Historic Environment Record (HER) and to Dodd's 'A History of Northumberland' volume XIII (1930). Newburn has no published parish history and so a series of booklets known as the 'Bygone' books, published by Newcastle upon Tyne City Libraries & Arts and Jack Armstrong's typescript of 1973, have proved invaluable.

Documents and maps were helpfully made available by the staff at Northumberland Record Office, Newcastle City Library Local Studies Section, Tyne and Wear Archives, Newburn Library, Archives and Special Collections in Palace Green Library at Durham University and the Duke of Northumberland's archive at Alnwick Castle, for which I am very grateful. The Public Record Office and other record office collections across the country have been searched online. Aerial photographs from the collection of Newcastle City Council's Planning and Transportation Division have been utilised within this thesis.

I would like to thank my Dad for his kind words and for proof-reading this dissertation and my husband, Rob, for his undying patience and moral support.

Last but not least I must thank my employers, Tony Wyatt and Ian Ayris of Newcastle City Council for funding my degree and for allowing me studying time during office hours. I would also like to thank Ian Ayris and Tyne and Wear County Archaeologist, David Heslop, for proof-reading this text and most of all for their support and encouragement.

Abbreviations

AA	Archaeologia Aeliana
AC	Alnwick Castle archives
HER	Tyne and Wear Historic Environment Record
HLC	Historic Landscape Characterisation
NEEHI	North East England History Institute
NLS	Newcastle City Library Local Studies
NMR	National Monuments Record
NRO	Northumberland Record Office, now Northumberland Archives
PG	Palace Green, Archives and Special Collections
PRO	Public Record Office
PSAN	Proceedings of the Society of Antiquaries of Newcastle upon Tyne
SH	Syon House archives
SS	Surtees Society
TWAS	Tyne and Wear Archives
UDC	Urban District Council
UDP	Unitary Development Plan

Chapter One

Introduction

This dissertation is a study of the transformation of part of the historic rural landscape of Newcastle upon Tyne. It examines the long-term development of Newburn essentially from the medieval period to the present day, and aims to explain why the modern landscape appears the way it does, retrieving information on former landscapes and determining which elements of previous landscapes have survived to the present day. The conclusions are surprising and demonstrate when and where the major changes in the landscape occur, and show contrasts in settlement development and divisions between the industrial and agricultural.

There are two fundamental reasons why this is a good choice of topic. Firstly there has been very little previous research into the villages surrounding Newcastle. We think of Newcastle as an expansive modern city, but it was once a medieval town surrounded by villages with only a few scattered farms and hamlets (Roberts 1977a, 15). Detailed histories of Northumberland such as Hodgson (1840) and the County History (Dodds 1930) do of course include Newcastle and its suburbs. Stuart Wrathmell's thesis on southern Northumberland (1975) focused on medieval village settlements, but only on those which were deserted. Wrathmell includes part of the study area, but not Newburn or Walbottle because these settlements were never abandoned and not Whorlton because the village is not medieval in origin. This dissertation therefore goes some way to filling the void by examining those settlements which were successful. As long ago as 1977, Roberts highlighted the supreme importance of understanding successful settlements as opposed to deserted sites (Roberts 1977a, 154).

In Newcastle the focus of scholarly interest has always been on the development of the town itself (that is the land once enclosed within the circuit of the medieval town walls). The city's history has been the subject of countless books and papers, and an

assessment of its archaeology is imminent (Graves, forthcoming). Newcastle has also been subject to several major archaeological excavations and the evolution of the city over time has been examined in some detail through the English Heritage-funded Urban Record project, a database created and maintained by the Tyne and Wear County Archaeologist. The five smaller medieval towns of Tyne and Wear have been studied in a similar fashion through English Heritage-funded Extensive Urban Surveys. By contrast, the surrounding landscape, where the agricultural land meets the ever-expanding suburbia, has been largely ignored by academic research.

The second reason why the chosen topic is important is because it examines the landscape in which these settlements lie. Many previous landscape studies have not surprisingly been based on rural or semi-rural sites (Bassett 2000; Williamson 1987; Daniels 1990; Bettess 1994; Aston, Hall and Gerrard 1999; Muir 2001; Pilbeam 2006). Newburn in comparison is essentially an urban suburb. Here the question arises, can techniques used by other scholars to investigate the transformation of rural landscapes, work in an urban environment? This dissertation will demonstrate that despite the fact that this is an urban area, evidence of former landscapes has survived into modern times.

The chosen topic of study is also timely because it fits with national research initiatives. English Heritage is currently funding Historic Landscape Characterisation (HLC) projects across the country. Tyne and Wear have yet to undertake such a project. The aim of HLC is to fill in the gap of knowledge left by the Intensive and Extensive Urban Surveys which examined historic towns, to study the development of the surrounding countryside and to recognise differing patterns of rural landscape (Clark, Darlington and Fairclough 2004).

Finally, this dissertation addresses some of the principal issues raised by the newly published *North East Regional Research Framework for the Historic Environment* (Petts with Gerrard 2006). Key research themes there include the origin and development of smaller urban communities and large villages (MD2), early coal industry (PM1) and the region's nationally important waggonways (PM2). In addition the Framework recognises that more work is needed on early nineteenth century colliery housing (Petts with Gerrard 2006, 183), of which the study area has plenty and that little is known about lowland farming landscapes (Petts with Gerrard 2006, 178). The recording of lowland pre-enclosure landscapes and the nature of field boundaries, the Framework says, should be a priority and this dissertation researches the development of field systems and boundaries within the study area.

The English Heritage Research Agenda (1997) has prioritised further study of the Industrial Revolution (c.1700-1850) particularly topics such as the landscape of agricultural industry (English Heritage 1997, 45, PC8) and recommends that industry needs to be placed in a wider context, to include ecological impact and industrial housing (English Heritage 1997, 53, T6). These are topics which this piece of work will discuss.

1.1 Justification of area

The study area for this thesis is Newburn, which lies some five and a half miles west of the city centre. There are several reasons why Newburn is a prudent choice. It is an interesting mixture of sprawling urban suburbia, and traditional agricultural



Fig. 1 Upper map shows location of Tyne and Wear. Lower map shows location of Newcastle upon Tyne within Tyne and Wear.

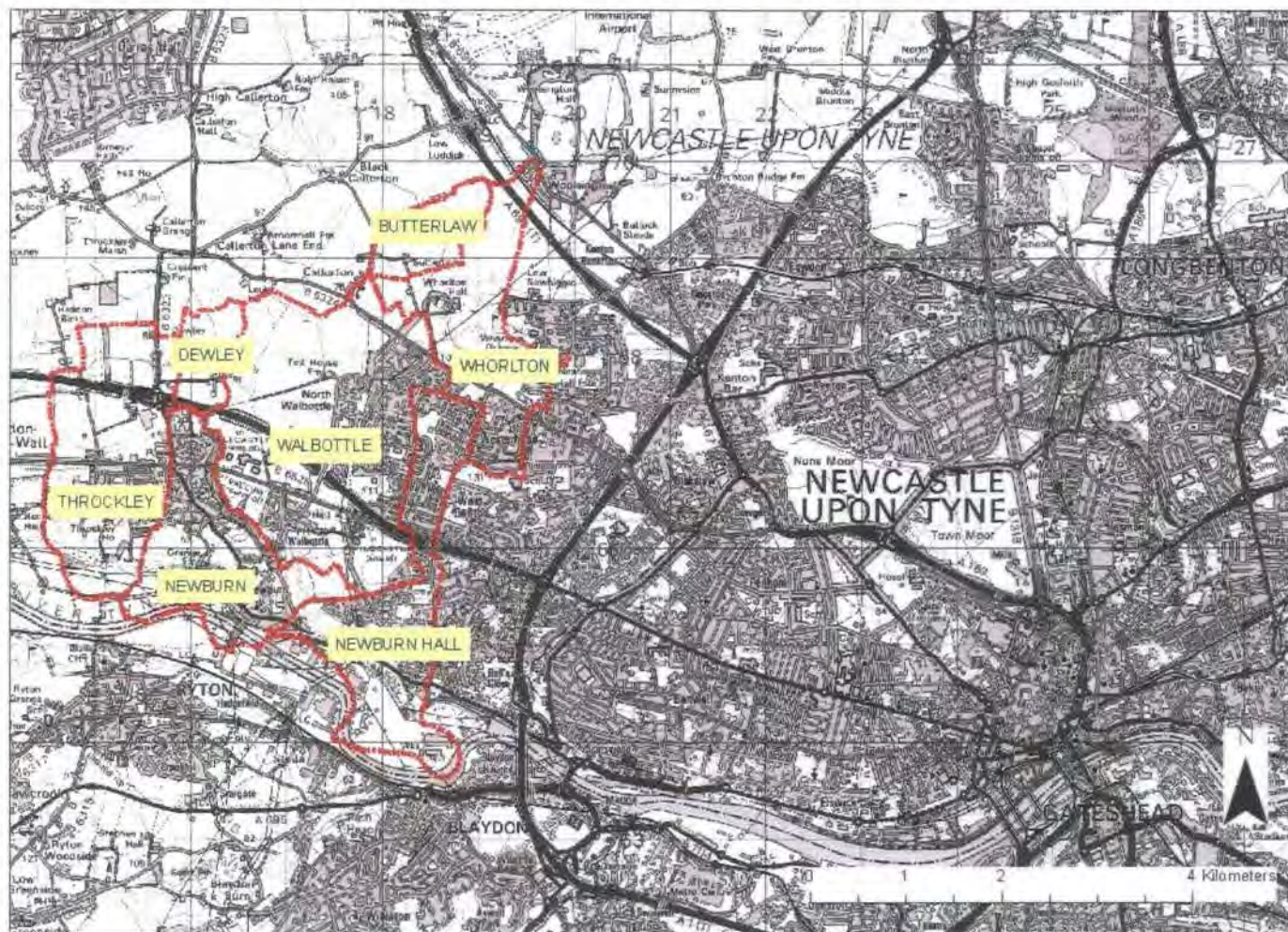


Fig. 2 Location plan showing the study area, the former Newburn manor, divided into its component townships, in relationship to Newcastle upon Tyne. The red study area boundary is based on township boundaries digitised from Ordnance Survey first edition map of 1858.

landscape, where a contrast in the percentage of earlier features surviving should be expected between the rural and urban townships. In short, a study of Newburn may indicate what type of results might be expected from a study of a wider area of the landscape surrounding Newcastle and indeed other cities.

Unlike the areas of Jesmond and Gosforth, affluent suburbs of the modern city, the west side of Newcastle is traditionally viewed as poor, impoverished since the decline of industry. Newburn has no published parish history, though there are unpublished texts (Adamson 1973; Armstrong 1973; Charlton n.d.) based on the County History (Dodds 1930) and a series of articles on historic Newburn were published in 'Contact' magazine, the quarterly journal of Newburn Urban District Council in the 1970s. This part of the city is historically rich and despite industrial and urban development it retains much of the layout of its past landscapes within its streets and fields.

Newburn was a seat of industry, and there were early coal pits at Newburn, Throckley and Walbottle (Newburn Urban District Council 1958, 12). By the time of the Industrial Revolution there were several large collieries, and these employed huge numbers of the local population. By the eighteenth century, a glass works had been established at Lemington and by the nineteenth century the rural landscape had been scarred further by iron works, steel works, brick works and other manufacturing industries. Newburn is connected to several important industrial pioneers. George Stephenson moved to Newburn from nearby Wylam with his family at an early age (Walker and Warner 1953, 273). His two marriages, in 1802 and 1820, were conducted in Newburn Church. William Hedley, railway engineer and manager of Walbottle then Wylam Colliery, was born in Newburn in 1779 (Dodds 1930, 140-141; Newburn Urban District Council 1958, 21). Robert Hawthorn was engineer of Walbottle Colliery. His sons set up the Hawthorn Leslie Works in Newcastle (Walton and Watson 1992). Both Hedley and Hawthorn (fig.3) are buried at Newburn Church (Ayris and Linsley 1994, 79). Newburn is

therefore an ideal study area to demonstrate how industry has affected a once agrarian landscape.



Fig.3 Grade two listed (7/28) gravestone of Robert Hawthorn, industrial entrepreneur, at Newburn Church. Alice Hawthorn died in 1837 and Robert in 1842 (copyright author).

Another important element in the landscape is ownership (Aston 1983, 329; Aston 1985, 32). Landowners play a key role in the development of the countryside and Newburn was the property of notable landowners. The manor formed part of the lands of the Earl of Northumberland. In 1095 the manorial lands were given back to the King and granted to the Claverings, later to be returned to the Nevilles and Percys (Dodds 1930, 119, 141). From that time to present the land of Newburn has remained the property of the Earls and Dukes of Northumberland. Throckley belonged to the Radcliffe family in the sixteenth century then passed to Greenwich Hospital in 1749 (Dodds 1930, 163). This research will show just how intimate a connection there can be between people, places and landscape development.

1.2 Newburn - historical and administrative background

Newburn village occupies a strategic location at a safe 122m above sea level on the north bank of the River Tyne on a section of river which was once shallow enough to ford (Newburn Urban District Council 1958, 11). It is in fact the nearest place west of Newcastle which could be crossed in this fashion (Knowles 1915, 13). David II, King of Scotland, crossed the Tyne at Newburn in 1346 on his way to Neville's Cross (Knowles 1915, 199). This strategic location was undoubtedly one of the reasons why the settlement developed. Newburn Ford was made famous in 1640 as the location of an Anglo-Scottish Battle (Richardson 1841, 261-262; Richardson 1843, 129; fig. 4).



Fig. 4 There is no surface evidence to show that these fields were a battlefield in 1640. Visitors therefore rely on these interpretation panels (copyright Tyne Riverside Country Park). The battlefield is included in English Heritage's Register of Historic Battlefields, but will not be further discussed in this dissertation because the battle failed to have a long-lasting physical impact on the landscape of Newburn due to the decision by the Scots to set up their cannons in the tower of the parish church rather than building entrenchments (Richardson 1841, 261-262; Anderson n.d).

The study area actually equates not with Newburn village but with Newburn manor, which comprised of the townships of Newburn, Newburn Hall (which included Dewley), Throckley, Walbottle, Butterley and Whorlton (Dodds 1930, 142). Manors were estates under the control of a lord with peasant tenants providing labour and rent (Williamson

and Bellamy 1987, 21, 34-35; Rowley 1983, 60). The lord of the manor controlled the estates' assets, economic activities, customary and legal rights through his manorial court (Cantor 1987, 5) from the manor house in Newburn village. Like most manors, Newburn contained an area of land 'in demesne' at Newburn Hall and Dewley, which was like a home farm, held by the lord and worked by the peasants to produce goods for the estate. The plan of the manor of Newburn 1620 (AC O/xvii/1) is instructive in showing how the land was divided at that time. Dewley and Newburn Hall are coloured green to show that this is the lord's demesne land (typically a third of the whole cultivated area, Cantor 1987, 5). The demesne strips were held by the lord and worked by the manorial tenants directly under a bailiff or leased at fixed rent (Darby 1976, 87; Wade-Martins 1995, 41). Documents of 1651 and 1663 list those parts of the demesne which had been rented to tenants (SH A/ii/11b; SH A/i/14). Throckley was owned by the Radcliffe family in 1620 and so like other freehold land in the manor, is left white on the map.

The boundaries of the townships which formed Newburn manor were frequently in dispute (PRO E 134/28Chas2/Mich32 1676-7; PRO Subsidies 158/1, 158/6 in Dodds 1930, 135). Mayson's survey of 1613 (AC A/iv/2) describes the boundary of the manor which can be read in appendix one.

The earliest reference to Newburn manor is 1204 when King John granted it to Robert fitz Roger, lord of Warkworth and sheriff of Northumberland (Dodds 1930, 142; SS vol. cxvii, 276, 278, 445). It descended to John fitz Robert (de Clavering), baron of Warkworth (SS vol. cxvii, 304) but on the death of his heir in 1311 the manor was returned to King Edward II (Dodds 1930, 143). In 1328 Henry Percy, second lord of Alnwick, acquired the manor, from Edward III (Dodds 1930, 144; SS vol. cxvii) and it remained in the Percy family from then on (Cal. Pat. Rolls, 1307-1313, 401; Cal. Close

Rolls, 1330-3, 390). Those features included in the manor are described in appendix two.

The manor should not be confused with the extensive ecclesiastical parish of Newburn, which in addition to those townships mentioned above, also included Black Callerton, Newbiggin-on-the-Moor, Sugley, West Denton, East Denton, Dalton, North and South Dissington and Wooslington (Urban District Council 1958, 9). The ecclesiastical parish is too large a study area in which to do justice to the evidence available in a thesis of this size.

Newburn was part of the County of Northumberland until Newburn Urban District Council was formed on 2 March 1893 (Urban District Council 1958). The UDC (fig. 5) was 1882 hectares in size and consisted of the townships of Newburn, Newburn Hall, Denton, Sugley, Throckley and Walbottle. Dalton and North and South Dissington remained as they do today, within the County of Northumberland. In 1974, when the now disbanded county of Tyne and Wear was created, the district council became part of Newcastle City (Urban District Council 1958, 9).



Fig. 5 Newburn Urban District Council Offices, Newburn Road, 1910 by E. Cratney. Built in the Baroque style, the offices are listed grade 2 (7/39). (copyright author)

1.3 Geology

A discussion of the land use of Newburn would not be complete without some reference to the geology of this area. This part of Tyneside lies on Middle Coal Measures of Carboniferous origin, their outcrop obscured by glacial drift. Quaternary deposits are mostly boulder clay (Stamp 1946, 422-427; Pawson 1961, 85; Mills and Holliday 1998) which produces heavy clay-loam soils (Stamp 1946, 474-475). Patches of alluvium, sand and gravel and sandstone knolls amongst the boulder clay were often chosen as sites for settlements (Butlin 1973, 96) such as Newburn because these areas provided better drainage and easier cultivation (Smailes 1960, 101).

The coalfield region of Northumberland, in which Newburn is located, is a low-lying plateau traversed by rivers and streams in narrow wooded valleys or denes (Stamp 1946, 474-475; Newton, 1972, 42). These natural water courses provided water for drinking, cooking and for industry (Roberts 1987, 122). Newburn lies west of the New Burn (AC O/xvii/3). Tomlinson (1888) described the Walbottle Dene through which the New Burn (fig.6) flowed as charming 'sylvan scenery'. Other watercourses within the study area include the Ouse Burn, Dewley Burn, Walbottle Burn, Reigh Burn, Butterlaw Burn, Whorlton Burn and Small Burn. These are all designated wildlife corridors (UDP policies NC1.5 and 6).



Fig. 6 Newburn Bridge over the New Burn (left) and the Reigh Burn flowing out to the River Tyne (right). These fast-flowing streams provided water power for mills and later industrial enterprises, enabling Newburn to develop as an industrial settlement (copyright author).

The presence of boulder clay subsoil and heavy loams does not prevent arable farming (Smailes 1960, 189). In fact the soil of Northumberland along the river valleys has been described as remarkably fertile (Wallis 1769, xxiv) and more specifically that near the banks of the Tyne was said to be of excellent quality (Kelly 1886, 415). In the first draft report for the newly formed Board of Agriculture in 1794, John Bailey and George Culley described the soil of the Newburn area as 'moist loams on a wet cold clay bottom', mainly employed in growing grain and where wheat, oats and fallow was the commonest rotation (Stamp 1946, 476-478). The Tyne valley is amongst the driest, warmest parts of the north-east (Butlin 1973, 96) which is beneficial to arable crops (Stamp 1946, 474-475).

1.4 Methodology

As the results of this dissertation are drawn entirely from cartographic and documentary sources, the main period of detailed study is confined to the period for which mapping is available. Although the study area has been visited at length which is demonstrated by the extensive photographic record taken by the author, no actual fieldwork or survey has been undertaken.

The technique employed is a map regression exercise, similar in nature to Tolan-Smith's work in Tynedale (1997), which analyses the landscape of the modern Tyne Riverside Country Park and to Gladys Bettess's study of Alnmouth in Northumberland (1994; 2004). The NEEHI project on the common waste and moorland of County Durham has been an extensive GIS based retrogression exercise (Roberts, Dunsford and Harris 2005, 224). Further afield, Williamson (1986 and 1987) used retrogressive methodology for Norfolk starting with the known landscape and by removing hedge lines dating to the recent past, he was left with a field pattern which predated the Roman roads.

Like Tolan-Smith's work, and the landscape studies of Victor Skipp (1970; 1979), where fieldname evidence and medieval documents were employed to determine former land use and agricultural practices in Yardley near Birmingham, this dissertation will demonstrate the value of documentary sources in explaining what is visible on the maps. Unlike this study however, Skipp's book stops at end of the sixteenth century and there is little discussion of what survives today and how the past landscape has shaped the modern one.

Many other works have been instructive in suggesting methodologies and useful sources of information such as documentary sources, mapping, place and field names (Beresford 1957, 239; Fowler 1972; 2000; Fowler and Blackwell 2000, 18; Rippon 2003). Aston and Rowley (1974, 23) investigated the land from the end of the Roman period to the beginning of the Industrial Revolution, using the landscape itself as a source of information, analysing the effects on the past landscape of modern development, mineral extraction, roads and the removal of hedgerows. They conclude, as does this research, that the modern landscape, retaining relict features from earlier periods, actually reflects the past.

The methodology employed in this dissertation is the creation of a series of maps for each township. Early mapping has been traced and reduced in size in order that it can be overlain over Ordnance Survey maps. The series of maps (presented in volume two) has been generated by copying the traced image of the maps using GIS (ArcMap version 9.1). This has been done by eye; a digitising tablet has not been used. Each township is shown at the point at which a significant cartographic record was made, with subsequent maps depicting which boundaries and features were removed and added between the creation of that map and the next. The resulting map regression shows how the landscape changed over time, at least as far as can be deduced from cartographic evidence. By analysing the series of maps it is possible to determine roughly when and where the major changes occur. Documentary sources have then been employed to explain who was involved and their motives.

By comparing the series of digitised maps with the current Ordnance Survey map, it is possible to see how the former landscape compares with what we see today, what still survives and how old it is. The earliest maps are not to scale and are of dubious accuracy. It is almost impossible to exactly correlate such maps with either early Ordnance Survey or the modern map. The digitisation is therefore indicative only. Although total accuracy cannot be claimed, the value in attempting to digitise these early maps even approximately is that they give an indication of the earliest layout of the countryside which has been mapped in any detail.

1.4.1 Sources of evidence

The difficulty with studying medieval Northumberland is the dearth of primary evidence. Domesday Book does not cover Northumberland (Darby and Maxwell 1962, 419; Beresford and Finberg 1973, 56) and the 1183 Boldon Book compiled by the Bishop of Durham does not cover the study area (Roberts 1977a, 60; Smailes 1960, 92). The Lay

Subsidy of 1296 is really the first detailed information similar in nature to that recorded in Domesday Book (Fraser 1968; Newton 1972, 43-44). In the fourteenth century unfortunately Northumberland was exempt from many Lay Subsidies (such as that of 1334, Glasscock 1975) because of the Scottish invasions (Glasscock 1976, 137). Furthermore, there are few surviving court rolls and minister's accounts (Butlin 1973, 94), probably because many were destroyed during the fighting (Wrathmell 1975, 22). Nevertheless, where available, relevant documents such as tax returns, inquisitions, estate surveys, rentals, farm accounts, court rolls and probate inventories (which list the possessions of a deceased person who had left a will) have been examined.

Cartographic material relating to the wider Northumberland is abundant, from Christopher Saxton's first national atlas of county maps of 1570 (Cantor 1987, 40-41), Peter Keer's 1599 map of Northumbria, to William Camden's 1607 (last) edition of the 'Britannia' with an engraving of a survey of '*Northumbriae Comitatus*'. Then there are maps by John Speed, 1611 (fig. 7), Richard Blome, 1673, Robert Morden, 1680 and so on (Chubb 1927; Whitaker 1949). None of these maps show the landscape in detail, but they do show the countryside prior to the impact of industry (Skipp 1979, 179).

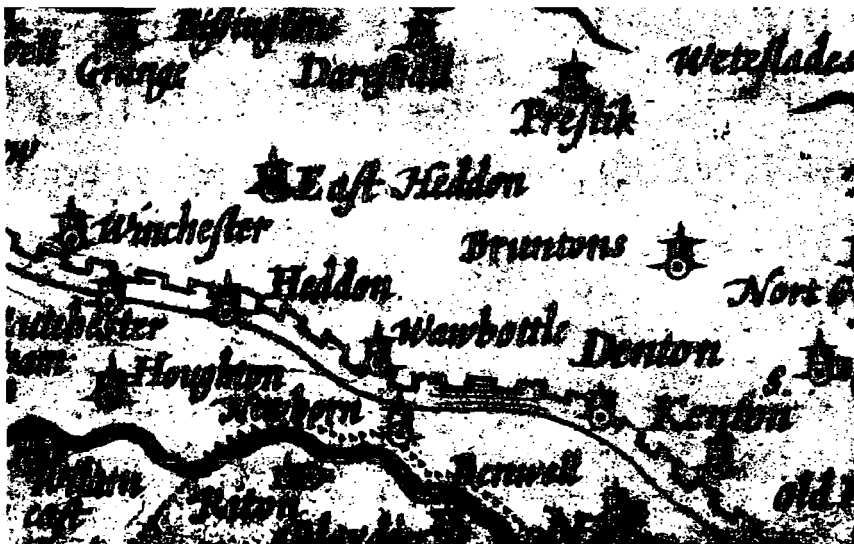


Fig. 7 Speed's map of Northumberland of 1611, shows little detail, but Wawbottle and Newburn are depicted in relation to Hadrian's Wall, neighbouring villages and the River Tyne. Throckley is not shown.



Fig. 8 Early maps can however be unreliable sources of evidence. Jansson's map of 1646 shows 'Wawbottell' but peculiarly does not show Newburn. (copyright NRO ZAN M16/B21)

Aston (1989, 115) says that there are few good early maps of the West Country which show villages in detail and the same can be said of Tyne and Wear. The earliest detailed map of the study area appears to be a plan of the manor of Newburn surveyed by Norton for the Duke of Northumberland in 1620 (AC O/xvii/1). Presumably the plan was created in order to provide an accurate record of the extent, quality and type of tenure of the Duke's land (Baker and Butlin 1973, 10). This map is invaluable. It shows the open fields, with furlongs and strips, the closes, tofts and crofts, houses, woodland, mills, boundaries, field names, roads, footpaths and industrial sites (Baker and Butlin 1973, 10-11). Accompanying the map is the terrier which gives the size of each land unit, the name of the landowner or holder and rent details (Baker and Butlin 1973, 11).

Maps by Armstrong (1769), Fryer (1820) and Greenwood (1827) are the best known large-scale topographic maps (Baker and Butlin 1973, 2-3). Armstrong's map of Northumberland is the first large-scale (one inch to a mile) county map (Whitaker 1949). All three maps show features such as towns, villages, churches, houses, parks, woods and coal pits.

Tithe maps and awards prepared by Tithe Commissioners as a result of the Tithe Commutation Acts of 1836-60 are invaluable for reconstructing field systems of earlier periods, and deciphering the relationship between field pattern and types of cultivation (Baker and Butlin 1973, 6-7). There are tithe maps and awards for each of the townships.

As will be seen, there were in Newburn, enclosures by agreement from at least the seventeenth century. A few plans and maps or sketches survive (NRO Sant/Beq/9/1/1/37; NRO 3410/Wat/23a/21). For the study area enclosure awards and plans produced by Commissioners responsible for the implementation of an Act of Parliament which decreed enclosure, account only for Throckley Fell (Baker and Butlin 1973, 8; PRO MP1/237).

The evidence revealed by the map regression and documentary sources is then discussed as a series of themes.

1.5 Key themes

The themes discussed will be multi-period in their outlook because the aim of this work is to demonstrate that the pre-modern landscape of Newburn has survived in part and has influenced the layout of twentieth century housing estates, just as part of the plan of Wharram Percy was determined by the layout of Romano-British fields and evidence of Saxon activity (Bell 1989, 281). Tom Williamson and Steven Bassett's work has been of significant influence on my choice of arranging the chapters not by period but by topic. Williamson's work in Scole-Dickleburgh in Norfolk (Williamson 1987; 1998; 2003, 42-43) showed that the Iron Age has had as much impact on the modern landscape as the enclosure of the commons in the nineteenth century (Williamson

1986, 241-8; 1987; Wade-Martins 1989, 156, 164). In the Midlands, Bassett (2000) is able to prove that much of the modern landscape pre-dates the Roman military road. Muir (2001) draws on the methodology of Tom Williamson to discover a relict co-axial system in the fields at Ripley in Yorkshire. These works show, as does this thesis that landscape cannot be neatly divided into time periods because it evolves and develops through time (Aston 1985, 73, 153; Bell 1989, 269; Wade-Martins 1989, 156; Williamson 1986, 241-8).

Scholars have long advised that settlements should not be viewed in isolation but studied in their wider landscape setting, taking into account economic factors and land ownership (Aston, Austin and Dyer 1989, 4-5; Roberts 1987, 5; Williamson and Bellamy 1987; Bettess 1994, 211).

In order to explain the results of the mapping exercise, the landscape will be examined under a series of headings including agricultural change, industry and buildings. This dissertation will not however include survey work on the standing structures. The themes discuss the effect of agriculture, trade and industry in the outlying fields on the settlement and vice versa and the impact of the landowner on the development of the countryside. Research has determined what historic buildings survive and the age of the surviving field, parish and township boundaries. The consequence of changing agricultural practices and industrial activity on the landscape is considered.

The next chapter will introduce the townships of the study area.

Chapter Two

Township by township

In this chapter the six townships which made up Newburn manor are introduced, (Dewley which formed a detached part of Newburn Hall is also examined separately) and the results of the map regression exercise are discussed before being analysed in detail under thematic headings in chapters three to eight. This chapter should be read in conjunction with the results of the map work presented in volume two.

2.1 Butterlaw

Butterley or Butterlaw started life as a medieval village. The earliest known reference to the village (the name means 'Butter Hill', Beckensall 1992) being 1242 (Book of Fees, Vol. ii, 1, 112). There were six taxpayers in 'Buterlawe' in 1296 (Fraser 1968, No. 147; Bradshaw 1916, 213) and eight in 1312 (PRO Subsidies 158/6), which gives some indication of population size. In the fourteenth century Butterlaw was a reasonably sizeable village (HER 1301). An *Inquisition post mortem* of 1309 for instance, recorded that Robert fitz Roger possessed twelve bondage holdings, each containing a messuage and 16 acres of arable land and a cottage (NRO ALN UR E III/1 in Wrathmell 1975). In 1367 it was described as a hamlet (SS vol. cxvii, 433), which Wrathmell (1975, 326) interprets as evidence that the settlement had decreased in size. While we have no idea of the impact of the Black Death, these are constant statistics (six taxpayers in 1296, eight in 1312), which do not suggest a decline in population. The Muster Roll of 1538 lists seven men 'able with hors and harness' plus twenty-three 'futmen' with 'neither hors nor harness' at Butterlaw (Hodgson 1855, 181). In comparison for Walbottle, where twenty-eight men are listed, the data suggests that at that time the villages were of similar size. Hodgson (1855) suggested that one can work out the size of the population by multiplying the muster figures by 6.5. This would give an estimated total population of 195 for Butterlaw which is a sizeable village.

In 1557 the rents of Walbottle, Butterlaw and Dewley together amounted to £41 8s 9 ½d (SH A/i/4a) but there is no indication as to how this was divided between the three townships. At this time Edward Errington (the Erringtons lived at Denton Hall, East Denton) was bailiff for the Duke of Northumberland (Dodds 1930, 157). The Erringtons continued to hold land at Butterlaw throughout the sixteenth and seventeenth centuries (AC A/iii/1, B/vii/1 O/xvii/1; SH A/ii/11a; Dodds 1930, 157). By 1567 a survey of the Barony of 'Newborne' showed that the twelve husbandlands at Butterlaw had been amalgamated into 6 tenements (AC A/i/1/R Pt. 17, 10 in Dodds 1930) suggesting that the land was rented out to separate tenants.



Fig. 9 Butterlaw Farm (copyright author)

The 1620 map of Newburn Manor (AC O/xvii/1; fig. 198) shows the symbol of a single house at Butterlaw roughly in the same position as the present farm.

Map work demonstrates that earlier elements survive in the modern landscape. The landscape is one of irregularly shaped fields. There is no arable land in Butterlaw at this time, only meadow and pasture. When the 1620 plan is overlain over the current map we can see (figs. 198, 208) that the boundaries of Butterlaw Crofts still survive, if straightened. The present road from Lough Bridge through Callerton follows the line of a field boundary which pre-dates 1620, as does a small section of Stamfordham Road.

Wrathmell (1975, 327) suggests that the house symbol on the 1620 map represents a single steading, but as there were still four tenants in 1625 (SH A/ii/11a), the symbol might represent something more substantial, perhaps a complex of buildings. Whatever is represented, this is likely to be the former location of the village. The form of the settlement is unknown but the 1620 map suggests that it probably had a green (the field 'Butterlaw Greenes') and that crofts (indicated by the field 'Butterlaw Crofts') could have lined a lane leading west out of the village (Wrathmell 1975, 327).

In support of this argument, earthworks (figs. 10, 11) are visible in the north-east corner of what was Butterlaw Crofts field, across the road from the present farm. These, according to Wrathmell, 'undoubtedly' derive from nineteenth century farm buildings visible on the Ordnance Survey maps, rather than from the medieval village (Wrathmell 1975, 327). However Barbara Harbottle (HER 1301) notes a building at this position on an 1767 map (NRO Sant/Beq/9/1/1/24, fig. 201).



*Fig. 10 Earthworks in north-eastern corner of Butterlaw Crofts.
(copyright author)*



*Fig. 11 At least one linear earthwork is visible in the north-east corner of Butterlaw Crofts field, perhaps in a rectangular enclosure, and ridge and furrow survives in the remainder.
(copyright Fairey Surveys Ltd 5725, August 27th 1974)*

Topographical survey could determine whether the earthworks align with the former buildings and if they do not, excavation could clarify what the earthworks represent. The ridge and furrow in Crofts Field is notably straight and narrow and could be later in date, perhaps a relict of eighteenth century agriculture overlying the remains of the earlier village (HER 1301). It is likely that the earthworks postdate 1620 as the plan of the manor shows this field as meadow not arable.

A plan of Whorleton Moor 1710 (AC O/xvii/2, fig. 199) provides no further detail but by 1767 (NRO Sant/Beq/9/1/1/24; fig. 201) the road leading from Butterlaw to the eastern pastures, shown on the plan of 1620 (AC O/xvii/1) had been removed, an access road built to the farm from the south and a waggonway driven through the fields. New straight boundaries enclose newly-named fields.

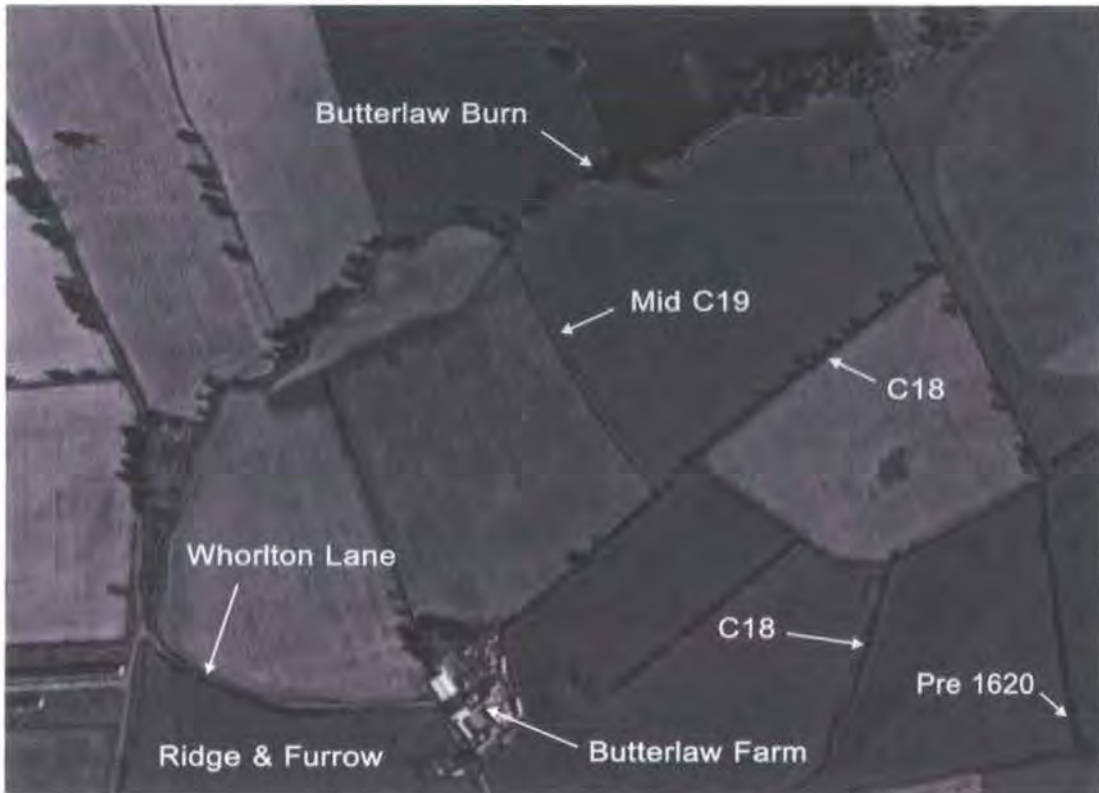


Fig. 12 Butterlaw.

*The date of the field boundaries has been deduced from the map regression work (see volume two).
(copyright Fairey Surveys Ltd 5725, 27th August 1974)*

Changes in field shapes and boundaries between 1620 and 1767 (fig. 200), which is the period of the greatest change to Butterlaw, are due to the process of enclosure. Around half of the seventeenth century field boundaries disappear between these dates and those remaining are more regular in size and shape.

This land was held by four tenants listed in a rental of 1625 (SH A/ii/11a), three in 1651 (SH A/ii/11b) and 1663 (SH A/i/14), four again in 1685 (AC B/i/3) and three in 1700 (AC B/i/6). Despite the fact that Butterlaw had decreased in size since the medieval period, the hamlet was stable in so much as the rent remained at a constant £50 from 1678 to at least 1726 (AC B/vii/1, 2a, 3, 4). Wrathmell explains the shrinkage of Butterlaw by the introduction of severalty (land in separate ownership that is not subject to common rights) farming in the early 1600s (Wrathmell 1975, 203; 1980). He says that once a system of severalty farming had been introduced, a village settlement became

unnecessary, hence desertion and shrinkage (Wrathmell 1975, 205), though clearly the establishment of farmsteads would depend on consolidated land blocks. The map evidence suggests that Wrathmell is likely to be correct. Butterlaw devolves from a small village or hamlet into a single farmstead during the period of enclosure and the demise of open field farming. This process was presumably driven by the landowner, the Percy family, who made the decision to enclose and rent out the land to individual tenant farmers.

The biggest change between 1767 (NRO Sant/Beq/9/1/1/24, 25) and 1847 (NRO DT 80 M; fig. 202) was the removal of the waggonway, and a drastic rearrangement of field boundaries and fieldnames. Much of what is present today dates to this period of change.

The fieldnames on the Tithe Map of 1847 (NRO DT 80 M; fig. 203) give little indication of land use, merely indicating their position next to the Burn (e.g. West Burn Field). The apportionment is instructive however in that 196 acres out of the total of 241, was at that time arable, a stark contrast with the pre-enclosure situation in 1620.

During the latter part of the nineteenth century, changes were few. Butterlaw ceased to exist as a separate township from 1891 and was instead included with Whorlton. Between 1898 and 1921 development took place on Butterlaw's boundary. Burn Close Sewage Works, a public house and rows of terraced cottages (fig. 13) for the miners at North Walbottle Colliery (Peacock 1994), with allotment gardens to the rear, date to this period of change, but there was no change at all within Butterlaw Township itself. Even by 1960 (fig. 207), the only alteration was the excavation of a small feature, perhaps an extractive pit, to the immediate north of the farm.



Fig. 13 Terraced miners cottages at Severs Terrace and Morton Crescent – built along with Armstong Street and Burn Close by 1921. Burnside Cottage, The Bungalow and Loughbridge House were added by 1960 to form the tiny village of Callerton (copyright author). This development contrasts with Butterlaw itself which has changed little since 1847.



Fig. 14 Callerton was provided with a public house, now known as the Poacher's Cottage– built between 1898 and 1921. It was known as The Burnside in 1960 (copyright author).

Notable changes between 1960 and the present day include field subdivision and boundary removal. In the 1980s and 90s the countryside surrounding Butterlaw has been blighted by opencast mining but following extractive operations, the landscape has subsequently been restored.

Taken together, this evidence shows that over a prolonged period of time Butterlaw shrank to a single farmstead, but there was little change to the surrounding fields, the

present arrangement primarily dating to the period of enclosure in the eighteenth century, with some pre-enclosure survival and some nineteenth century alterations. Butterlaw village shrank whilst a new neighbouring settlement of houses for industrial workers was created alongside at Callerton. The reason why Butterlaw did not expand as an industrial settlement is land ownership. The Duke of Northumberland was landowner of Butterlaw. Messrs Severs and Morton, directors of North Walbottle Colliery, were the creators and owners of Callerton village (Peacock 1994).

2.2 Dewley

Dewley was in fact a detached part of Newburn Hall township, because both areas were demesne land. For the purposes of this study however it will be examined as a separate entity.

Dewley Hill (fig. 15) is itself protected as a Scheduled Ancient Monument (SAM 32048). Scheduled as a prehistoric burial mound, largely due to interest by antiquarians (Hodgson 1840; MacLauchlan 1858), Dewley Hill is in fact more likely to be a natural glacial kaim composed of sand and gravel (Smythe 1908-11).



Fig. 15 Dewley Hill (copyright HER)

Minor prehistoric interest (The Archaeological Practice 1996b, 3, 7; HER 187; Sockett 1971, 245-6; Weyman 1984; Tolan-Smith 1992-4) aside, the earliest documentary reference to *Dewillawe* village is the Lay Subsidy of 1296, which lists four tax payers (Fraser 1968, No. 151). There were still four in 1312 (PRO Subsidies158/6). As the number of tax payers might suggest, Dewley was only a small settlement, for an *Inquisition post mortem* of 1309 lists four bondages, each containing sixteenth acres of arable, and one other tenement (NRO ALN UR E III/1). In 1367 the vill was recorded as 'a waste place called *Deuelawe*' (SS vol. cxvii, 433) and Cartington's rental of c.1500

(SH A/ii/3a) states that part of the township was in decay. Fairly certainly a shrunken or deserted settlement, Dewley may, according to Wrathmell (1975, 159-160), have been one of those which failed to recover from the Scottish devastations. Alternatively its gradual demise could have been due to the Black Death or poor harvests (The Archaeological Practice 1996b, 11) or a variety of coincident factors.

The site of the medieval village is unknown. Two possibilities are suggested. The first is Dewley House (later Farm) as shown on the 1620 plan (AC O/xvii/1, fig. 209). The second is Cutty Coats and Dewley as recorded on the Ordnance Survey second edition (HER 1314; NLS 1970 Neg. 51/3/88, fig. 216). If Dewley Farm is the location of the medieval vill then Dewley is a shrunken settlement but if Cutty Coats was the site then it was deserted from the end of the fifteenth until the early nineteenth century.

In the seventeenth century Dewley was demesne pasture land (AC O/xvii/1; AC AI, III, 1) and rented out to tenants. In the 1567 survey of the Percy estates, for example, the whole township was in lease to John Musgrave (AC A/i/1). In 1622 the 'house and a close called *Dewly*' (as shown on the 1620 plan of the manor, AC O/xvii/1) were held by Cuthbert Hearon, who also held the manor place of Newburn (SH A/ii/11a) and then by Sir Orlando Gee (Dodds 1930, 149), who was M.P. for Cockermouth in Cumbria. Renting out this land, which had previously been described as waste, provided the lord with an income. Could Dewley's fate therefore have been caused, like that of Butterlaw, by the end of demesne farming? The township was rented out to a single tenant and then downgraded from a hamlet into a single farmstead. A widespread change in land management in the north has been noted to have occurred after the first outbreak of the Black Death in 1349 due to depopulation (Harris 2005, 197). Demesne farming became unviable due to the decreased population, and so by the mid fifteenth century most lords let out their demesne, and this is particularly true of the Percy estates (Harris 2005, 197).

Though there was little landscape change by 1710 (AC O/xvii/2, fig. 210) huge changes were afoot during the middle of the century. By 1767 (NRO Sant/Beq/9/1/1/24, 25, fig. 212) there had been two major influences on the landscape of Dewley, enclosure and industry. Enclosure transformed the open pasture into the grid-like pattern of sub-rectangular fields.

A complex of coal pits had been sunk by 1767, served by a network of waggonways. Even more pits came into use after this date but they appear to have been worked out by 1848 because they are shown as spoil heaps or waste on the tithe map (NRO DT 342 M; fig. 214). With the coal workings out of use, the waggonways were no longer needed and they too disappeared. The course of the west-east waggonway became a field boundary and the Walbottle Moors Waggonway, which opened around 1769 (HER 4271), is shown as a designated footpath. By 1848 a number of small buildings had been built in 'Shop Field', the name suggesting that they may have been workshops of some sort. A quarry is shown on the eastern boundary of Back Close, on the bank of the Dewley Burn.

Dewley then is an exceptional part of the study area in that whilst elsewhere industry continued rapidly throughout the nineteenth century, here mineral extraction was comparatively short-lived and the land reverted to agriculture by the mid 1800s. Whilst the pits were in use they co-existed alongside farming interests, and no doubt the local farm labour also made up the industrial workforce. The co-existence of agriculture and industry is a symbiotic relationship.

By 1848 (NRO DT 342 M; fig. 214) the unenclosed southern part of the township had been divided into four fields. A dead straight road, typical of those created by later enclosure, was built on the course of a former field boundary to Dewley Farm and this

still survives today. Like that at Butterlaw, the farm itself was transformed from the simple 'C' shaped building of the eighteenth century into a 'U' shaped farmstead with gin-gang, which would have been needed for threshing the corn from the new arable fields. Gin-gangs were particularly common in areas where local labour was tied up in mines.



Fig. 16 This aerial photograph shows Dewley Hill, Dewley Farm and ridge and furrow earthworks. The tree-covered spoil heaps and cropmark evidence of former coal pits can be equated with the 1767 map (fig. 212). The course of the 1769 Walbottle Moors Waggonway is clearly visible (discussed in chapter seven). The A69 is under construction. See fig. 217 for the dates of other boundaries. (copyright Fairey Surveys Ltd 5640, 27th August 1974)

By 1898 (fig. 216) the southernmost buildings in Shop Field became a complex named Dewley, one of the possible sites of the deserted medieval village (HER 1314). Many spoil mounds disappeared, but some tree-covered knolls survive today (fig. 17). Dewley Farm Cottages were built at the farm and the Dewley Burn was further straightened and diverted.



Fig. 17 Former spoil heap from eighteenth century mining (copyright author).

Remarkably there were no changes at all between 1898 and 1960, because Dewley has remained a working farm and the land has remained under the plough rather than becoming developable, but between 1960 and the present day there have been several changes. These include alterations to field boundaries and the removal of the largest spoil mounds to make way for modern agricultural buildings. The buildings once named as Dewley, and thus the opportunity of excavating one potential site of the medieval vill, have been destroyed by the construction of the A69 (fig. 16). Dewley Park House was built on the south-western township boundary in the mid twentieth century. Opencast mining has caused significant destruction (fig. 18).

Surviving boundaries in Dewley date, in the most part, to the seventeenth and eighteenth centuries (fig. 217). The township boundary itself could be much earlier. Archaeological excavation could be undertaken at the farm to determine if the deserted or shrunken village lay in the environs of Dewley Farm, and to establish if any medieval evidence has survived post medieval agricultural activity and coal extraction.



*Fig. 18 The most destructive change in the twentieth century was opencast mining which has destroyed the site of Throckley Mill, part of the township boundary, a section of the eighteenth century waggonway and Oak, Percy and Nancy Pits as shown on fig. 212.
(copyright R&I 10591056, 7th September 1991)*

2.3 Newburn

Newburn was settled by Anglo-Saxon times and is apparently referenced as '*New Burc*' in 635-653 AD (Charlton n.d). It formed part of the royal demesne of the kingdom of Northumbria (along with Bamburgh, Warkworth and Corbridge) and has been suggested as the 'new *burh*' that superseded the old royal vill of *Ad Murum* (Craster 1914, 28-29; Dodds 1930, 136, 141-143), assuming that this is Walbottle (see section 2.6). *Burhs* were defensive centres against Viking or Danish attacks (Rowley 1983, 39, 81; Tait 1936, 3-4). Some were protected enclosures, others were fortified settlements (Williamson and Bellamy 1987, 54). Newburn potentially needed defending because it occupied a strategic point on the Tyne, which was navigable up to this point where it was crossed by a ford. However, it is debatable that *burhs* actually extended this far north. Hill (1981, 143) lists Bamburgh, the capital of the kingdom of Bernicia, as a possible *burh* before 850. Darlington was put forward as a possible *burh* in 1912 (PSAN 1912, 3, v, 18, 185). Early ones under Offa were in Kent and Wessex, and Alfred the Great founded *burhs* 870 -930 in southern England (Hill 1981, 85). After 910 AD *burhs* were established across the Midlands and Danelaw (Yorke 1999, 71-72). No definite sites in the north are listed. The Bernician heartland on the rivers Tyne and Wear focused on the monasteries at Monkwearmouth and Jarrow, and the lesser known sites at Gateshead and the mouth of the Tyne (Rollason 2003, 50). Newburn does not feature in the literature.

The precise location, size and form of the early medieval settlement is not known but it may be assumed to have had a church, possibly on the same site as the present, and possibly consisting only of a nave and chancel like Escomb in Durham (Rollason 2003, 19; Gibson 1923). Anglo-Saxon settlements, however, should not necessarily be expected to survive under medieval sites because successive generations often exploited different parts of the same landscape (Aston 1985, 98). When the Anglo-Saxon kingdom came to an end, the land passed to the Earls of Northumbria.

Newburn was one of six boroughs on royal demesne in Northumberland in the twelfth century, paying ferm (borough rent) of £30 per year (Dodds 1930, 142; Beresford and Finberg 1973, 145). Boroughs had greater legal status than villages and paid a higher rate of tax (Beresford 1957, 127). At boroughs surplus food stuffs were sold, and produce bought (Britnell 1996, 8-9) but unlike Newcastle, Gateshead and Sunderland, no documentary reference has been found to confirm a market at Newburn. From the time when Newcastle was granted similar privileges (between 1100 and 1135, Beresford and Finberg 1973, 145; PRO C47 34/1/15) Newburn ceased to be a 'flourishing place' (Tomlinson 1888, 92) and thus did not develop into a town. In 1201 King John, whilst travelling through Northumberland, was raising money by selling charters to boroughs (Dodds 1930, 142). Newburn gave 15 marks and 2 palfreys for its charter (SS vol. cxvii, 275). No references to its borough status have been found after this date (Beresford and Finberg 1973, 145). Despite its demotion from borough to village, Newburn was the centre of a parish and with fourteen taxpayers in 1296 (Bradshaw 1916, 213) and nineteen in 1312 (PRO Subsidies 158/6), it was one of the largest villages in the area (HER 1319).

Newburn was granted by King John to the Lords of Warkworth in 1204-5 (Pipe Roll Society Publications 1940, NS, xviii, 41, xx, 42). The last Lord Warkworth died in 1331 leaving no male heir and so the lordship of Newburn passed to Henry Percy, second lord of Alnwick, beginning Newburn's long connection with the Earls and Dukes of Northumberland (Cal. Close Rolls, 1330-3, 390; SS vol. cxvii, 264, 269, 271, 273).

The map of 1620 (AC O/xvii/1) shows that Newburn was a two-row village on an east-west axis, with the cottages and farmsteads on either side of the main thoroughfare, with crofts to the rear. The settlement was built around a linear green, which is now built over by High Street (Rippeth 1993, 21). Newburn was from where the lord of the manor dispensed justice from the manorial court. The court appointed constables for

the townships within the manor (SH K/i/5). A document of 1293 mentions stocks, tumbrel (open cart for carrying prisoners) and pillory at Newburn (Fraser 1968, 64, no. 148). Mayson's survey of 1613 mentions 'Newburn Towle booth' (AC A/iv/2). Gateshead town had a tollbooth from 1577 which acted as a market court and town gaol (Manders 1973, 29). Court Rolls of Newburn survive for 1761 to 1772 and these largely relate to minor incidents (Dodds 1930, 150).

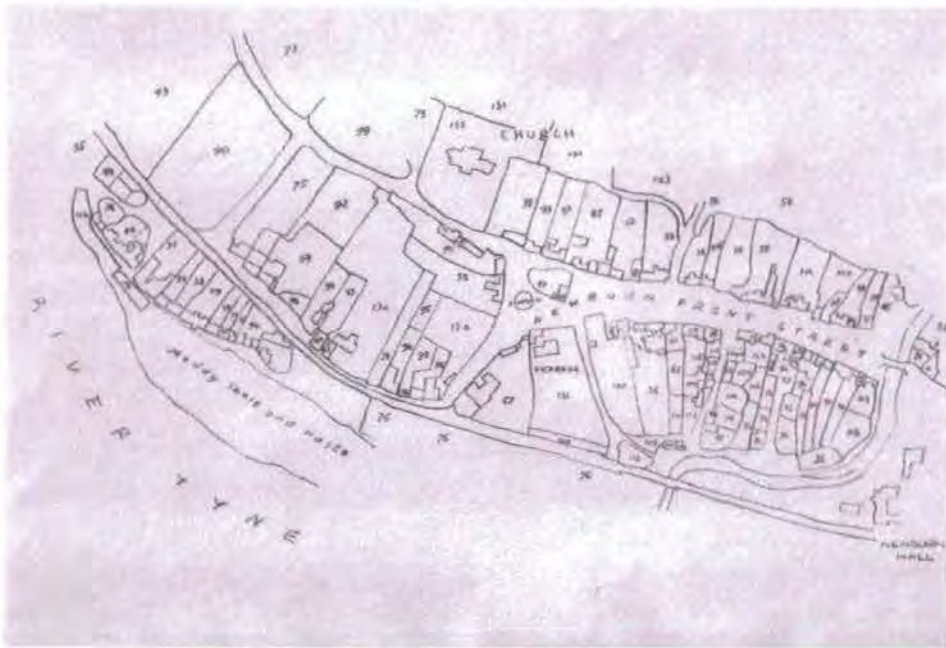


Fig. 19 Tracing of Newburn village from tithe map 1849 (NRO DT 341 M). Even by this date, the medieval two-row form of the settlement is still apparent with long burgage plots lining the main thoroughfares. Front Street occupies the position of the former green, but a circular pinfold is still present. Pinfolds or pounds were enclosures where stray animals could be temporarily penned. Examples of these survive at Elsdon in Northumberland and Ryton in Gateshead.



Fig. 20 Front Street became Newburn High Street and was built over the village green by the mid nineteenth century (copyright NCL acc. 57655). The houses shown here no longer exist.

The boundary between Newburn and Throckley was not fixed until the seventeenth century. A plan of Throckley dated 1619 shows 'Elie Hill', 'Grindstones', 'Yareford' and 'Ulmer Meadows' (SH B/vi/2a). By the Duke's plan of 1620 (AC O/xvii/1; fig. 218), these meadows are shown as part of Newburn. The rest of the township was arable, divided into irregular furlongs and strips. Within the agricultural fields there were four coal pits and a mill on the New Burn.

Enclosure changed the landscape surrounding the village. By 1767 (NRO Sant/Beq/9/1/1/24; fig. 220) 'Grindstones' (the significance of this field name is explored in section 4.2) and 'Ely Hill' had been subdivided and the curving boundaries of the furlongs were straightened to form more regular parcels. Newburn Grange was an enclosure period farm, constructed at some point between 1767 and 1849 (NRO DT 341 M; fig. 222) within its enclosed fields. Before enclosure the farmsteads would have been located on the main village street.

Cartographic evidence shows clearly the transformation of Newburn farming village into Newburn industrial settlement. By the end of the eighteenth century, the inhabitants of

Newburn were no longer primarily farm labourers but were mostly employed in fishing, mining, and transporting coal by means of the river (Gibson 1923). There was a complex of coal workings served by waggonways leading towards the river at Lemington staiths (NRO Sant/Beq/9/1/1/24, 25; fig. 220) where the coal was loaded on to colliers. The fields were traversed by the new military road or turnpike road which had been constructed by this time.

Throughout the nineteenth century industrialisation continued. Wylam Waggonway remained in use and the old Throckley Waggonway was re-used for a mineral railway. Newburn's largest industrial enterprise was Spencer's Steelworks (fig. 21) which opened in 1822.



Fig. 21 Newburn High Street and almshouses, with the chimneys of the steelworks to the rear, the exact date of the image is unknown but as it is a photograph it must be post c.1860 (after Steel n.d.).

With the arrival of the large-scale collieries, steelworks and brickworks in the nineteenth century, there was a need for the village to expand its residential areas. In 1811 Newburn was said to have 'attractive old houses irregularly built on uneven ground each with a garden' (Ridley 1968, 139; Rippeth 1993, 3; Parson and White 1828).



Fig. 22 Photocopy of T.M. Richardson's painting of a rural Newburn in 1800 (after Newburn Library). Newburn Hall, Newburn Church and the manor house are the principal buildings shown here. In 1800 buildings were few and scattered and there were wide views over the countryside and river. The church on the right hand side of Richardson's painting is the most striking structure. The roads are little more than undulating tracks.



Fig. 23 Newburn on Ordnance Survey first edition 1858
The comparison between the village in 1800 (fig. 22) and 1858 is striking. Within 58 years rows of houses, public houses, railways and factories had enveloped the open countryside. One striking feature is the large gardens planted with trees. Chapter three discusses Newburn's importance in providing fruit and vegetables to Newcastle.

The second edition Ordnance Survey of 1898 (fig. 24) shows that by the end of the century workers' housing had spread beyond the former confines of the village core. Meanwhile industrial structures swallowed up the former arable fields, meadow and pasture.



Fig. 24 Newburn Ordnance Survey second edition 1898

Industrial terraced cottages to the west of the village contrast with the two-row historic core. The steelworks now occupy a huge area alongside the New Burn and an enormous steelworks building (a rolling mill) has been built on former marshy land called Stanners which has been reclaimed from the straightened River Tyne. Newburn Bridge provides a new crossing point over the widened river (discussed in chapter six).



Fig. 25 Newburn in 1899 from the south bank of the River Tyne (copyright NCL, after Walton 1990). Of these buildings along the river frontage, which included old cottages called Water Row only the Boathouse Inn survives today. Water Row, was cleared by Newburn UDC as part of a 'slum clearance' in 1931-39 (TWAS UD/Nb/40/35). George Stephenson worked at Water Row Pit from 1798 to 1801.

The following photographs are useful to show how the village changed within a short period of time:



*Fig. 26 Postcard of Newburn High Street c. 1900 (copyright NCL acc. 70719).
The grand towered building on the left which still stands is the institute built by Thomas Spencer; that on the right, which has been demolished, is Newburn dairy.*



*Fig. 27 Postcard of Newburn showing the same view c. 1912 (copyright NCL acc. 51490).
The buildings remain the same, but a gas lamp, street furniture and footpaths have been added, the latter in response to the motor car*



Fig. 28 Further east along Newburn High Street, c. 1913 (copyright NCL acc. 51492). Spencer's Steelworks office is the grand building on the right foreground which still exists. The single-storey whitewashed cottages on the left have now gone, as have the cottages on the right in-between Spencer's office and the Duke's House. The buildings are discussed in chapter eight.

Between 1921 and 1960 (fig. 229) there was a housing boom in the area and many former agricultural fields disappeared under housing estates, bringing Throckley ever closer to Newburn. These were semi-detached brick houses built by Newburn Urban District Council. The replacement of old homes with 'box-like' two storey council dwellings with gardens was common practice in the north from around 1919 (Smailes 1960, 196). Census returns for Newburn suggest that the construction of houses was partially due to a population increase or influx of workers (in 1911 there were 4,260 people and in 1951 6,642). The housing boom must have also had much to do with re-housing the tenants of poor quality dwellings (fig. 28) which were systematically being cleared by the council in the 1930s (TWAS UD/Nb/40/3-36).

2.4 Newburn Hall including Lemington

Lemington is of relatively recent origin. There was a water mill called *Laman* in 1528 (Dodds 1930, 150; Knowles 1915, 195) and from this mill the name Lemington probably derives. In 1559 the name *Lamedon House* first occurs (Knowles 1915, 195-6). The tiny village of '*Lamenden als Lamenton*' had been established at the staiths some time before 1620 (AC O/xvii/1). A number of coal pits were being worked in 1620 (AC O/xvii/1; fig. 29).

In 1620 (AC O/xvii/1; fig. 232) Newburn Hall township was demesne land, mostly a mixture of large pasture and meadow fields, the 'home farm' presumably being located at Dewley House (see section 2.2), which was a detached part of Newburn Hall. '*Woode Close*' and '*Back of the Wood*' presumably indicate the presence of woodland. There were three main residences at that time, Newburn Hall, John Snowdon's house and *Henrik's* house and close, which was in fact a collection of buildings set in an enclosure, linked to Snowdon's property by a long lane. '*Henrik*' is an interesting name, perhaps suggesting a German or Dutch origin for the inhabitant, which is further suggested by the choice of name 'Holland' for this area on the first edition Ordnance Survey. This individual may have been attracted to the area by the industrial opportunities created by the construction of the staiths. Perhaps he was involved in the working of the staiths or the coal pits shown on the 1620 plan. The seventeenth century was the prime time for the arrival of invited workers from the Low Countries connected with water management (such work was not restricted to the Fens of Lincolnshire and Cambridgeshire), and could potentially have been associated with pumps for coal working (Graves, forthcoming). These individuals brought new technology to the north-east coalfield from Germany, which enabled coal at deeper levels to be exploited (Nef 1966 1, 26; Hatcher 1993). The size of the building complex and the nature of the

structures therein suggest that this person was in lucrative employment. John Snowdon is likely to have been a farmer as his property is located next to the arable fields.

The difference between the landscape of 1620 (AC O/xviii/1) and that of 1767 (NRO Sant/Beq/9/1/1/24; fig. 234) is striking. By 1767 the large irregular plots of pasture and meadow had been divided up into an arrangement of rectangular fields, only some of which retained sinuous boundaries. John Snowdon's house had been renamed or replaced by Pigg's Hall. The lane from the west was thereafter known as Hogg's or Pigg's Lonnen. As will be later discussed the demesne lands in Newburn Hall had been divided and allocated to new tenants by 1765 (Knowles 1915, 199). Hill Head was a brand new farm, the creation of enclosure for the new tenants, set amongst the new fields. Almost nothing survives of this enclosed landscape today. The fields have been destroyed by housing estates, the A69 dual carriageway and Lemington Road Ends roundabout. On the 1767 map there is no sign of the earlier coal pits, which were presumably worked out, but three colliery waggonways had been built to the staiths. Waggonways had brought coal to Lemington Staiths from 1748 (Brooks 2003; Warn 1976). The woods had been cleared, probably to make way for industry and because the timber itself had been exhausted to build waggonways and boats. Woodland was thus restricted to a tiny rectilinear area in the valley between the waggonways.



Fig. 29 Tracing of part of the manorial map of 1620 (AC O/xvii/1)
The village of 'Lamendon als Lamenton' and Henrik's House are shown, along with a number of 'coale pits', two of which are linked to the staiths by a water course.

The eighteenth century saw the industrial growth of Lemington village (AC O/xvii/10) with the creation of the glassworks and iron works (the latter lie just outside the township boundary). Mackenzie (1825, 485) described the village before 1787 as 'inconsiderable', merely a few scattered houses attached to the staiths but once the glass works opened it was like 'Sheffield in miniature... enveloped in smoke'. The owner of the glassworks built Lemington Hall in 1786 (Kelly 1886, 415). A cluster of cottages were built for the workers of the various enterprises. There was further industrial expansion in the mid nineteenth century. Slater's directory of 1855 depicts Lemington as a thriving industrial village.

Sand extraction was one of the main nineteenth century enterprises at Lemington. A small quarry is shown on the tithe map of 1848 (fig. 236), but by 1858 (fig. 238) there was also a sand pit at Sandy Banks near Newburn Hall, which by 1960 (fig. 244) had expanded to huge proportions. This quarry may be the location where in 1897 several skeletons, horse bones, iron and stone (musket and cannon?) balls were found (HER 1298). The age of these remains is not known but it has been suggested that they were casualties from the 1640 Battle of Newburn Ford (Perrin 1899; Newcastle Daily Journal, 31 May 1897; Dodds 1930, 137-8).

On the tithe map of 1848 (NRO DT 342 M; fig. 236), the fields had been further divided into smaller plots with straight boundaries. Union Hall occupied the site of Pigg's Hall (the wide road linking the Hall to the staiths has evolved into the present Union Hall Road) and cottages called Black Row had been built alongside. Lemington Hall is so named for the first time, but its setting, like that of Newburn Hall, had been marred by industrial activity, subsumed within the network of railway lines. One feature to note is that no scrap of land which was deemed suitable for cultivation was wasted. Tiny allotments or 'market gardens' were squeezed into the spaces between railway lines and in the formerly wooded valley running alongside the quarry.

By 1858 Lemington had merged seamlessly with Bell's Close, another riverside industrial settlement at the mouth of the Sugley Burn. Bell's Close boasted a brickyard, tile sheds, and manufactories for lampblack and fire brick. There were at least two shipyards at Lemington (Walton 1991) but shipbuilding could not be undertaken upriver from Lemington due to the presence of various islands in the Tyne and because the river was narrow, shallow and sinuous.

The River Tyne Commissioners improvement works in the late nineteenth century, which are further discussed in chapter six, had a huge impact on Lemington, damming

the loop in the river (figs. 30, 31) thereby isolating the staiths at the end of 'Lemington Gut' (Walton 1991, 1). From then on there were no major new industrial enterprises here.



Fig. 30 Lemington Gut - the original course of the River Tyne became a dammed canal-like narrow water course after river improvement work in 1876 (copyright Air Fotos, n.d.). The impact of this work is discussed in chapter six.

In 1920 Lemington Point, no longer occupying a position on the banks of the Tyne, could only be accessed by means of a wooden bridge and its isolated location led it to being occupied by the shell-filling factory of W.G. Armstrong, Whitworth and Co. during the First World War (AC O/xvii/35). The last industry on the Point was the Anglo Great Lakes Graphite Factory which closed in 1991 (Rippeth 1993, 75). At the turn of the twenty-first century a new road bridge gives access to Newburn Haugh, which has been reclaimed and developed into a business park.



Fig. 31 Newburn Haugh – the loop in the river was dammed by the Tyne Commissioners to widen and deepen the river to make it passable by large boats. Dent's Meadow, the extensive island in the River Tyne immediately to the south of Newburn Haugh, which can be seen on the first edition Ordnance Survey map, fig. 238, was dredged away (copyright Air Images n.d.).

The surrounding fields had been further divided by 1898 (fig. 240). The settlement of Lemington expanded to the north of the glassworks, with rows of workers' cottages (fig. 32). Newburn Hall had by this time been subsumed into a large steelworks building.

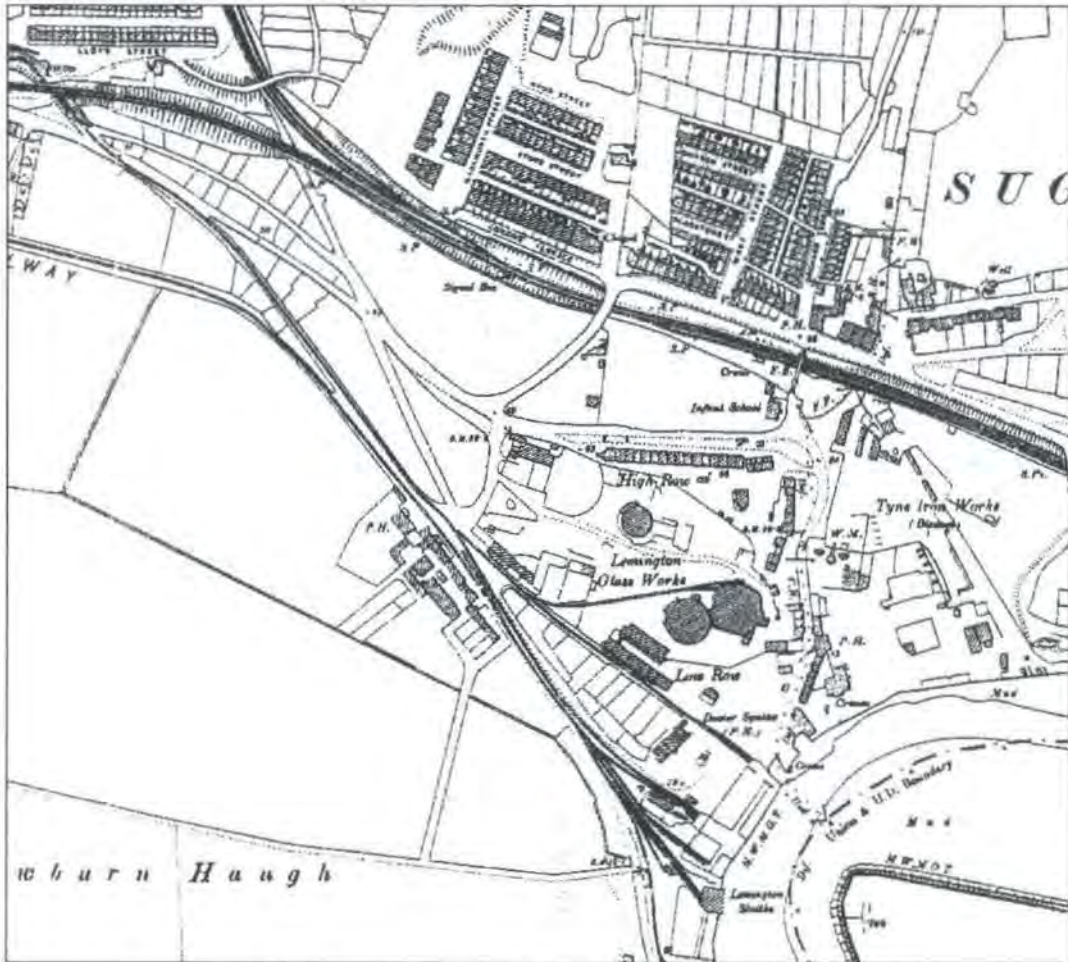


Fig. 32 Lemington with its glassworks, iron works, railway lines and staiths as shown on Ordnance Survey second edition (25" to a mile) of 1897. High and Low Rows, either side of the glass cones were amongst the earliest worker's cottages in Lemington. By 1897 further terraces had been built north of the railway line. This part of the growing settlement was equipped with no less than three public houses, an infant school and a chapel. The buildings are discussed in chapter eight.

By the third edition of 1921 (fig. 242) urbanisation continued apace. A cemetery (fig. 33) had been laid out to the west of Union Hall and an infectious diseases hospital (named Newburn, Gosforth & Castle Ward Joint Isolation Hospital in Kelly's Directory of 1910) had been constructed next to the Walbottle Colliery Waggonway. Lemington hospital was demolished in the twentieth century and the site built over by housing. The sand pit, much expanded, was named Sandy Banks. A tramway had been built from Blucher and there was a tramway link from Lemington to the Tyne at Newburn Haugh where there were a series of landing stages. More rows of terraced houses were added to create a sizeable settlement.



Fig. 33 Lemington cemetery was laid out by 1921 on land sloping down to the River Tyne (copyright author).

The landscape of 1960 (fig. 244) saw the addition of an industrial estate on Hillhead Road. Lemington village had expanded into an urban suburb with the addition of rows of houses on the Hexham Road, a new housing estate south of the cemetery and more houses along the riverside towards Sugley Dene. Newburn Haugh was subject to industrial activity and sand extraction had reached its maximum extent at Sandy Banks. The huge industrial building which incorporated Newburn Hall had gone.

Several grand historic buildings and structures, such as the glass cone, survive in Lemington, and are discussed elsewhere in this thesis. The impressive Lemington Power Station (fig. 34) was built by the Newcastle and District Electric Lighting Company in 1903. This power station ceased generating in 1919 but continued in use until 1946 as a substation supplying the local tramways (Grundy et al. 1992, 374; Rippeth 1993, 74).



Fig. 34 The imposing Lemington power station was built in 1903 (copyright author).

In summary Lemington is an example of an industrial settlement which grew up alongside the staitths, glassworks and iron works. It has continued to expand in modern times and now forms an extensive suburb of Newcastle City, seamlessly blending with Bell's Close, Scotswood and West Denton. This is the most built-up part of the study area and for this reason little evidence of the seventeenth and eighteenth century enclosed landscape has survived. One of the most significant survivals is the southern boundary of 'Broome Field' shown on a map of 1620 (AC O/xvii/1), which marks the edge of a twentieth century housing estate.

2.5 Throckley

There is nothing in Throckley today which suggests that this is in origin a medieval village. Throckley appears to be very much an industrial settlement strung out along a main road and expanded by modern housing (fig. 35) and industrial estates.



Fig. 35 This housing estate occupies the site of Throckley village (copyright author). Presumably some of the trees were grafted into the design to give an instant appearance of age.

Throckley formed part of the early medieval settlement in Newburn. In 1161, 'Trocchela' was granted out as a drengage holding, when the dreng of Throckley paid three marks to the exchequer (Pipe Roll 7, Henry II). Drengage was a pre-Conquest form of personal service (Newton 1972, 34; 55). There is further mention of the 'dreng' in 1177 (Pipe Roll 7, Henry II) and in 1204 (Hodgson 1840, 345).

The medieval village of Throckley is reasonably well documented (for example Curia Regis Roll 171, 45-46, Henry III p 217 No. 656; Book of Fees, vol ii, p I, 123). It was a small settlement, having in 1296, the same number of tax payers as Butterlaw (Fraser 1968, No. 172; Bradshaw 1916, 213). There were eight in 1312 (PRO Subsidies 158/6;

Dodds 1930, 161). The two-row village originally lay south of the Roman Wall with its access unusually orientated north-south (Wrathmell 1975, 124) but the main street on an east-west axis. The 1620 plan (AC O/xvii/1; fig. 246) shows the village at the crossroads of a north - south road and a west - east road. There are properties at the crossroads, each lying within a croft of varying size.

Freeholds in Throckley were treated from at least 1200 as a gift to Hexham Priory (Dodds 1930, 158). In 1379 the priory owned a considerable portion of the land and mortgaged eight acres of common fields and meadows to the lepers of Newcastle (SS vol. xlvi, ii, 55-6). The leper hospital of St Mary Magdalene lay in the vicinity of St. Thomas' Church at the Haymarket, Newcastle. Place names from this time, such as '*Grymeslawecrok*' (SS vol. cxvii, 304, 314) are peculiar, and apart from those which presumably reference their location near to Hadrian's Wall, such as '*The Wall*' and '*Wallynges*' (SS vol. xlvi, ii, 55-6) their meaning and derivation is unknown. It is impossible to align these medieval fields with the irregularly shaped fields with curvilinear boundaries on the 1620 map (AC O/xvii/1, fig. 246), which also have bizarre names.

Throckley was always treated separately to the rest of Newburn manor. As early as 1250 there was a dispute (and subsequent agreement) over the boundary between Ada de Baliol, lady of the manor and Robert of Throckley (SH B/vi/2a; Dodds 1930, 159, 162; SS vol. cxvii, 306-7). Another boundary agreement was produced between Anthony Radcliffe, then owner of Throckley, and the Earl of Northumberland, owner of Newburn, in 1586 (SH J/vii/4a). The manorial plan of 1620 (AC O/xvii/1) depicts Throckley in less detail because it was not owned by the Duke and is classed as freehold, for instance the use of the fields is not identified. The 1767 plan of the Lordship of Newburn (NRO Sant/Beq/9/1/1/24) omits Throckley completely.

In the fifteenth century '*Throklawe*' was held by John Cartington by homage (pledge by tenants to their lord) fealty (NRO 622/6; SH A/ii/3a; Dodds 1930, 162). During the same century the Cartington estates passed by marriage into the hands of the Radcliffes of Derwentwater in Cumberland and Dilston Castle in Northumberland (Dodds 1930, 162; Faulkner and Lowery 1996, 44). After the execution of the third Earl of Derwentwater in 1716 the estates reverted to the crown and in 1735 were passed by King George to Greenwich Hospital (Bates 1895, 262; Wrathmell 1975, 23), which had been founded in 1694 as a Royal Naval Hospital for Seamen (<http://www.grenhosp.org.uk>). In 1865 the hospital's estates transferred to the Lords of the Admiralty (Dodds 1930, 163).

1736 (figs. 36, 248) is the date of the next detailed plan of Throckley (NRO Sant/Beq/9/1/1/34; PRO MP1/230). The field system had been totally redesigned and many of the boundaries straightened. Peculiarly shaped segments of land are named as freehold, once owned by John Rogers later Edward Montague (the Montagues lived at Denton Hall) and fieldnames had changed.

The plan of 1736 (NRO Sant/Beq/9/1/1/34) was surveyed the year after Greenwich Hospital took over the estate and probably reflects the landscape which was in existence when the hospital took over, as it is unlikely that they could have achieved a major re-organisation of the field system within a year. East and West Fields may represent the former medieval common fields, each possibly representing the former length of the furlongs.



Fig. 36 Tracing of section of map of Throckley 1736 (after NRO Sant/Beq/9/1/1/34)

The village at that time contained about fifteen buildings, mostly probably cottages (Wrathmell 1975).

There had been significant changes to the access arrangements over the last one hundred and sixteen years. The wide road from the north shown on the 1620 map (AC O/xvii/1) had been reduced to a narrow route-way which stopped when it reached the course of Hadrian's Wall which is here represented only as a field boundary, and the wide curved road leading to the south had completely disappeared.

Linear elements shown as 'freehold', bought by Greenwich Hospital in 1777 (Dodds 1930, 163), may represent former strips within the common fields. Nolan suggests that the landscape depicted on this map is probably a continuation of that established in the medieval period (Northern Counties Archaeological Services 2001, 8) and this seems sensible, although none of the fieldnames mentioned in medieval documents have survived. The field boundaries are sinuous, probably indicating medieval ploughing, and the field shapes are irregular in size and shape. Strangely, Hadrian's Wall is not shown, although all field boundaries respect its course, indicating that they must be post-Roman. At this time, before the construction of General Wade's military road (see chapter six), there must have been some upstanding element of the monument.

The landscape changed beyond recognition between 1736 (NRO Sant/Beq/9/1/1/34) and 1781 (NRO 3410/Wat/23a/21; NRO Sant/Beq/9/1/1/37). By 1781 (fig. 37) field boundaries were straight, fields more rectilinear in shape and some of the fieldnames

had changed. The main coal pits shown on earlier mapping must have gone out of use by this time and the former waggonways are shown as paths. Several other eighteenth century plans concentrate on numerous coal pits and waggonways in Throckley (NRO 536/1,2; NRO Sant/Beq/9/1/1/31, 35, 36).



Fig. 37 Tracing of map of 1781 held by HER (after NRO 3410/Wat/23a/21).

The lane running into Throckley village from the east had gone, and a field called Hall Riggs created in its place. A new southern lane separated Horse Close from West Dove Coat Close. This plan shows the new Military Road with buildings constructed at the crossroads.

The first major change had been the construction in 1751 of the Military Road (discussed in section 6.2.2), which effectively cut the township into two and re-orientated the access into Throckley village from east to north. It is tempting to suggest that this played a part in the downfall of the original Throckley village. Formerly the village was directly accessed on a main route-way. However once the Military Road was built the village was no longer situated on the main thoroughfare and travellers would have to turn off the main road to enter the village. It is not difficult to see why soon after the road was completed, buildings began to be constructed alongside the road in preference to the old village (Rippeth 1993, 44). Settlement shifts to main route-ways gave commercial advantages and enabled the village to serve the needs of travellers (Roberts 1987, 33).

The second major change was the enclosure of the open fields of Throckley in 1769 (NRO Sant/Beq/9/1/1/37; NRO 536.1, 2). This is when some of the curved irregularly shaped fields around the village were replaced by more regular rectangular fields with straightened boundaries (fig. 38). It is pertinent to suggest that the surviving curvilinear boundaries are relict features of the former medieval landscape. A road network had by this time been built with straight roads and buildings at the crossroads. Industry had also begun to seriously impact on the landscape.

During the same period Throckley Mill as shown on the 1620 plan (AC O/xvii/1, fig. 246), was abandoned in favour of a new mill next to the township boundary of Dewley (NRO Sant/Beq/9/1/1/24), perhaps because the straightened watercourse provided more power at that point or perhaps to bring the corn mill closer to the new arable field system. The mills of the study area are further discussed in chapter five. There is no trace today of the mill, and any subsurface remains will undoubtedly have been destroyed by extensive opencast mining which was being undertaken in 1991 (fig. 18).

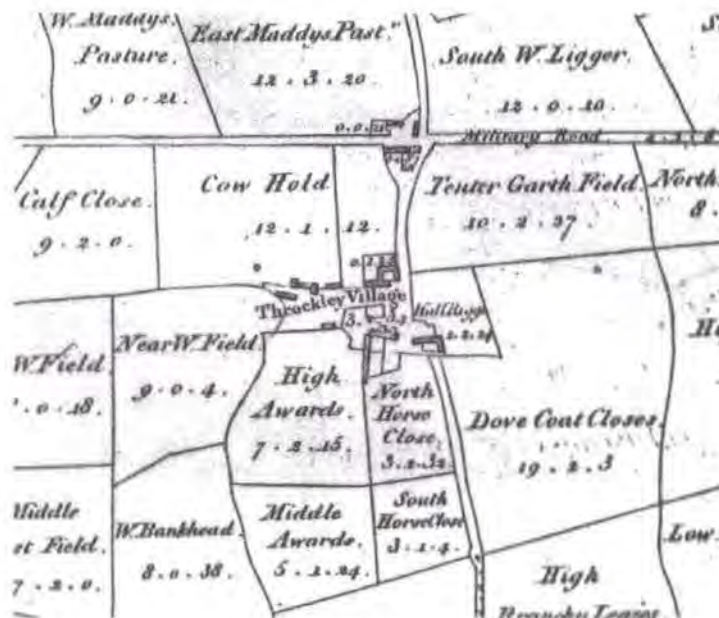


Fig. 38 Throckley in 1805 (copyright NRO 691/1/19; NCL L942.82 W151N).

This shows the impact of eighteenth century enclosure on the fields surrounding the village. There were huge changes in the shape of the fields, although Throckley village itself changed little. Some of the fields were subdivided, Hall Riggs was much reduced in size, the remainder becoming part of an enlarged Dove Coat Closes.

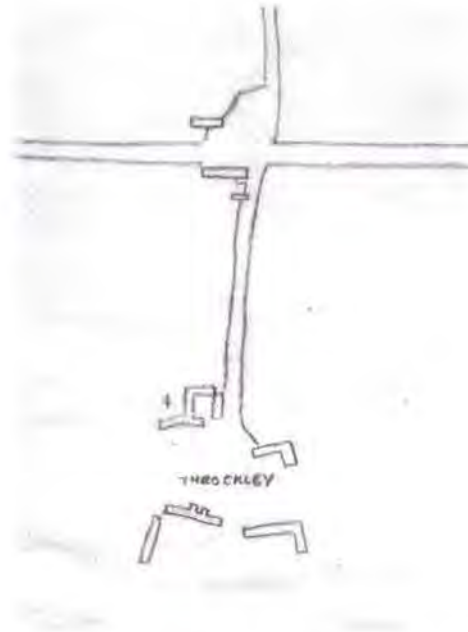


Fig. 39 Tracing of Throckley tithe map 1847 (after NRO DT 448 M)

For landscape purposes this map is of little use as none of the field boundaries are shown. It is significant however that this is the last depiction of Throckley village in its previous form.

At some point between 1847 (fig. 39) and 1858 (figs. 40, 252) Throckley village was all but obliterated, presumably to make way for the sandstone quarry which appeared on the site of Hall Riggs. A farm, Throckley House, was built south of the former village with an access road from the south and a quarry lies to the east. The farm at Fell Butts Close was renamed Throckley North Farm. Many of the fields were either subdivided or merged. Several coal pits are shown, each at the edges or corners of the fields, and most shafts are surrounded by small copses of trees. Some are marked as 'old' suggesting that these are out of use. The most extensive colliery workings were located at Throckley Colliery (Meadow Pit), which was served by a waggonway. To the east of this lay Throckley Brick and Tile Works.



Fig. 40 Throckley Ordnance Survey first edition 1858.

Throckley village has disappeared except for one row of cottages to the west of the quarry. The focus of settlement is now at the crossroads on the Military Road, where a Wesleyan Methodist Chapel and terraced houses have been built next to the toll point. The significance of the name 'Lead House' is discussed in chapter five.

By the late nineteenth century (Ordnance Survey second edition, 1898, fig. 254) further fields had either merged or had been subdivided. The biggest change was the addition of new buildings on the Military Road including a school next to the Methodist chapel. The filter beds of Newcastle and Gateshead Water Works which supplied Newcastle with clean water, were constructed, demonstrating how urban infrastructure can physically impact on the hinterland. A cluster of properties appeared where the mineral railway crossed the Military Road, and to the north of the road and east of the railway were five rows of terraced cottages.



Fig. 41 These old stone boundary walls on Hill House Road are the only upstanding remnants of the former village. The road aligns with the route leading north out of the settlement, shown on the 1736 map (fig. 248). The site of the last steadings on Ordnance Survey first edition (fig. 40) has been built over by the present Hill House. (copyright author).

Today land south of Hill House and to the west of Hall Riggs wood is bumpy and weedy, possibly representing the southern part of the village (HER 1316). Aerial photographs show that ridge and furrow also survives here. In the northern part of the township, the construction of the A69 has destroyed much evidence, such as most of the former Heddon Road shown on the map of 1805 (NRO 691/1/19; fig. 250). The quarry (fig. 42) which obliterated so much of Throckley village is now a small wood, as is the quarry next to Throckley South Farm. The most dramatic survivals in the landscape are the former coal pits which survive largely as tree covered mounds.



Fig. 42 Site of the sandstone quarry which was in operation by 1858 and which 'swallowed up' old Throckley village (copyright author).

2.6 Walbottle

Potentially Walbottle is the earliest settlement in the study area. It has been equated by some scholars (Smith in Craster 1914, 28-29; Colgrave and Mynors 1969, 279, 283) with the royal estate of *Ad Murum*. Bede records that in 652 AD Peada, chief of the Angles of the Midlands and son of King Penda of Mercia, was baptized by Bishop Finan at this royal estate (Colgrave and Mynors 1969, 279-283). The identity of *Ad Murum* is not known.

Like Walbottle, the royal estate stood close to the Roman Wall and was about twelve miles from the east coast (Colgrave and Mynors 1969, 279-283; Craster 1914, 28-29; Whellan 1865). The name New-burn suggests the existence of an older settlement in the immediate vicinity which is thought to be the 'Castlesteads' described by Horsley (1732, *Britannia Romana*, 138). According to Craster (1914, 28-29) this circumstantial evidence supports Smith's (no reference is given) identification of *Ad Murum* as Walbottle. The name Walbottle may be Anglo-Saxon, meaning the 'botel' or abode on the wall (Tomlinson 1888; Smailes 1960, 95; Rollason 2003, 64).

Brand (1789, vol. 2, 383) identified *Ad Murum* with Pandon in Newcastle but Longstaffe (1860, 56), for one, argued that Newcastle could not be equated with *Ad Murum*, and suggested Rudchester instead. The Pandon debate was resurrected again by Heslop (PSAN 1912, 3, v, 179), Hearnshaw (1924, 25), Hunter Blair (1976, 26) and Walker (1976, 63-67) on the basis that Newcastle was the correct distance from the sea and due to Gray's description (1649) of Pandon Hall. Walton, Weldon (Craster 1914, 157) and Heddon-on-the-Wall (Bates 1886, 243) have also been suggested. Rollason (2003, 73) probably quite rightly says that *Ad Murum* is a site 'not now identifiable' but suggests that it may have been a Roman fort which passed into the hands of Northumbrian kings like *Cambodunum*.

To date no archaeological evidence for an Anglo-Saxon settlement has been found in either Walbottle or Newcastle, although at the latter a large cemetery was excavated between 1977 and 1992 (Nolan, forthcoming).

The earliest documentary reference to Walbottle village appears to be 1272 AD (Newcastle upon Tyne Records Committee 1922, No. 888). Robert fitz Roger had a house in Walbottle which was robbed in the 1270s and an inquisition in 1309 on his death mentions the hamlet of '*Walebottell*' (NRO ALN UR E III/1). Walbottle is listed in the lay subsidies of 1296 and 1312, when there were ten tenants (Bradshaw 1916, 213). Cartington's Survey of 1499-1500 lists thirteen tenants (SH A/ii/3a). The Muster Rolls of 1538 list 28 men (Chan. Proc. series ii 60/78), suggesting that the small village had considerably grown since the thirteenth century. However, rentals list only eleven tenants from 1701 to 1724 (AC B/vii/1, 2a, 2b, 3, 4).

The plan of the manor dated 1620 (AC O/xvii/1, fig. 260) shows '*Walbotle*' village to the south of the 'pict's walle', accessed by roads from the south, east and north-east. The latter sinuous trackway, presumably a cattle track, outgang or driftway (Roberts 1977a, 145) links the village to 'Newburne, Walbotle and Butterlaw Comon'. The present Walbottle Road and the road to Walbottle Hall follow the same line as the lanes on the 1620 plan. Walbottle had a central open space or green (fig. 43) surrounded by crofts and tofts. Roberts defines Walbottle as 'an irregular agglomerated plan with a central green' (Roberts 1987, 24).



Fig. 43 Walbottle Green in 1910 (copyright NCL neg. 40/9/92 acc. 58005). The houses and church have now gone. Of these old buildings only the village institute, the second building from the right with a porch, now survives.



Fig. 44 The institute in 2006 and a view of the type of 1960s houses which replaced those demolished buildings shown on the photograph above (copyright author).

It has been suggested that the characteristic green villages of Northumberland date back to the reconstruction of settlement in the aftermath of the Norman Conquest and the 'harrying of the north', the rectangular or square greens originally having a defensive function to protect livestock against Scottish raiders (Wild 2004, 13). The green provided a wide open space in the core of the village and could be used for fairs, markets, for grazing animals and a meeting place (Rowley and Wood 2000, 41). Whilst dwellings were built around it, the green itself was often the site of the common forge, bakehouse, pinfold, smithy, alehouse, stocks, spring or pond (Roberts 1977a, 146;

Roberts 1987, 151). A blacksmith's forge was excavated on the green at West Whelpington village in Northumberland (Evans and Jarrett 1987, 241). The Ordnance Survey first edition map of 1858 shows that in the nineteenth century Walbottle green was equipped with a pond, stone pant and a horse trough (Walton and Watson 1992).

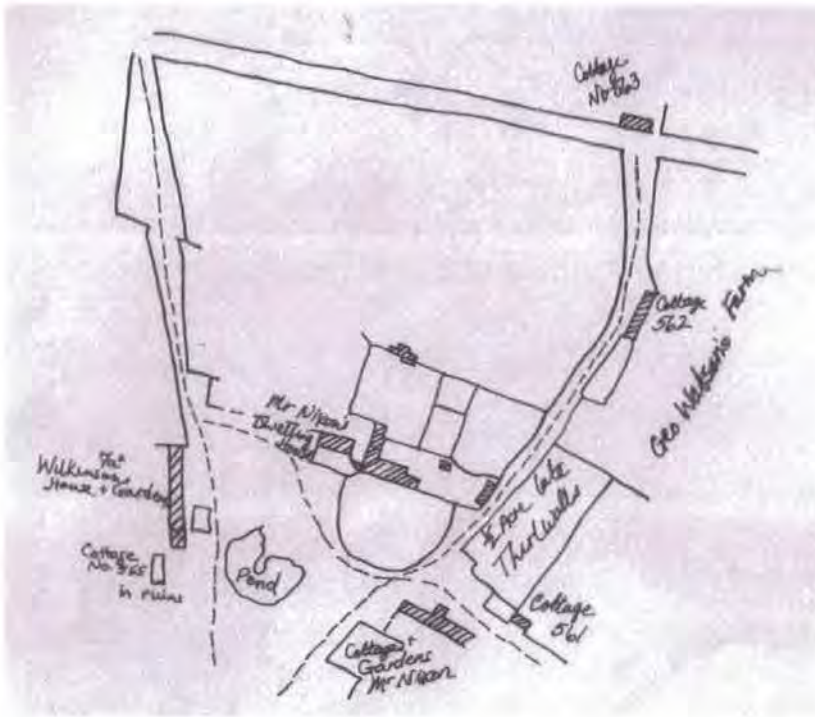


Fig. 45 Tracing of plan of Walbottle village by John Bell 1808 held by HER (after NRO Zan Bell 14/5). This shows a range of cottages around the village green and pond. Walbottle House is the L-shaped building east of Mr Nixon's dwelling house.

In 1620 (AC O/xvii/1; fig. 260) there were three arable fields at Walbottle, named West Field, Quarry Field and East Field, which were subdivided into smaller irregular furlongs or fields. These are probably the medieval open fields. Industrial activity is represented by three presumed coal pits and a large quarry.

At some point between 1620 and 1767 Walbottle was enclosed and this had a dramatic effect on the open landscape. A plan of the Lordship of Newburn (NRO Sant/Beq/9/1/1/24, 25; fig. 265) shows a patchwork of fields. Those in the north, newly enclosed from Walbottle Common, have straight boundaries; those to the south retain the curved boundaries which probably reflect medieval ploughing. The 1767 plan

shows new farms, Fell House and Coally Hills, built within the new fields. Chapel House was probably earlier in date (see section 8.2). There are also workers' cottages within the quarry and three colliery waggonways are depicted.

A plan of Walbottle Dean Farm 1808 (NRO ZAN Bell 14/5, fig. 266) and a similarly dated plan of the holdings of Walbottle North or Inn Farm (NRO ZAN Bell 14/4) shows land holdings of the farms north of the village. The fields had been subdivided further since 1767 and a turnpike road had been built, following the line of the Roman Wall. The road which once led to the common land had been extended and straightened, and forms a curious 'dog-leg'. When this map is compared with that of 1620, it becomes clear that the road is following the former blocks of furlongs. This phenomenon is noted elsewhere by Aston (1985, 43). A new road was built west-east across the former moor, serving Fell House and Coaly Hills, and a further road cuts across the north-eastern corner of Walbottle. Well Field indicates the presence of a water source. The field boundaries shown on these 1808 maps have largely survived today. Of particular note is the fact that the modern housing estates of North Walbottle respect these field boundaries.

By the tithe map of 1848 (NRO DT 468 M; fig. 268) the irregular fields had been replaced by more rectangular plots with straight sides.



Fig. 46 Walbottle Tithe Map 1848 (NRO DT 468 M) shows the village green and pond, surrounded by many more houses and two chapels. North of the green is the village farm and Walbottle House in extensive gardens. Barbara Harbottle (HER 1242) noted in 1978 that housing on the road to Walbottle Hall respects property boundaries shown on this map. A small quarry has been excavated east of the green. Next to the colliery waggonway and allotment gardens on the left side of the map is the very first terraced housing 'Old Row' (see below).



Fig. 47 Old Row, Walbottle c.1900 (copyright Newcastle Chronicle and Journal, after Walton and Watson 1992). This was the very first row of terraced houses in Walbottle village. The houses have no back gardens but vegetables could be grown in the surrounding allotments shown on the tithe map above. The photograph shows only children – presumably the men were at work down the mine. Duke Pit was only a short walk to the south.

A large field on the tithe map, (No. 51 South Knopley), at the southern part of the township has a curious rectangular enclosure of glebe land at its centre, marked by stones by 1858 (fig. 270). This probably coincides with an area of freehold shown on the 1620 map, although as the earlier map is not to scale it is impossible to confirm this. In a space of just over two hundred years, the landscape had changed from one devoted to agriculture, with only a hint of industrial activity, to a landscape divided between farming and industrial interests.

There is, not surprisingly, little change between 1848 and the first edition Ordnance Survey of 1858 (fig. 48, 270). One of the notable additions to the 1858 map however is the depiction of waggonways leading north-west and north east from Cut End. This is misleading as the Walbottle Moors Waggonway, which is known to have been in operation from 1769 (Warn 1976, 11). For some reason it has been omitted from the tithe map of 1848.



Fig. 48 Walbottle village on Ordnance Survey first edition 1858.

The function of the village buildings is shown here – Wesleyan and Primitive Methodist chapels, the colliery school, two smithys, Half Moon Inn, Percy Arms Inn and Brown Jug Public House. The Engine Inn served the needs of travellers passing by Walbottle on the Military Road. 'Bell Well' provided drinking water to the villagers. The quarry has expanded in size. Walbottle's two large houses, Walbottle House and Hall have formal grounds. The buildings are discussed in chapter eight.

By the second edition Ordnance Survey of 1898, a rifle range and drill hall had been installed for the Second Volunteer Battalion Northumberland Fusiliers, reflecting the increase in volunteer military activity in the second half of the nineteenth century, in response to the increased threat of invasion from France and Germany (Petts with Gerrard 2006, 107). Landowners often encouraged the formation of local rifle volunteers (Petts with Gerrard 2006, 107). Industrial development continued, with the opening of North Walbottle Colliery which fed into the pre-existing Coronation Pit waggonway. Industrialisation created a need for additional workers houses, and so rows of miner's cottages were built at Coronation Pit and a substantial row of houses with long attached gardens called Dene Terrace (fig. 49) was built to the south of Walbottle Village near to the former Duke Pit. By 1921 (fig. 274) there were yet more colliery terraces in the village and at Coronation Pit, and Blucher colliery village and Northumberland Gardens housing estate had been created. In contrast, the mid

twentieth century brought few changes to the environs of Walbottle. By 1960 the only addition was St. Cuthbert's RC school on Hexham Road.



Fig. 49 Dene Terrace – workers cottages built by 1898 near to Duke Pit (copyright author).

Whilst the surrounding fields have changed little in modern times, Walbottle village has been transformed. Old photographs of Walbottle (fig. 50) show stone cottages with pantiled roofs (Rippeth 1993, 3). These old dwellings were demolished and new houses (fig. 51) built re-using the stones (Walbottle folder NCL; Armstrong 1973, 10). In 1962 the 10th Duke of Northumberland gave the village of Walbottle to Newburn UDC for its redevelopment (TWAS UD/Nb/20/1-61/55, 56).



Fig. 50 These cottages at High Square, Walbottle c. 1900 were amongst the earliest casualties of change, demolished in the 1930s as part of an extensive 'slum clearance' by the council (Twas UD/Nb/40/33; copyright NCL plate 5431 neg. 8/11/83 & 25/8/84 acc. 36501).



Fig. 51 Typical example of the 1960s houses in Walbottle village which replaced the stone cottages. (copyright author)

Significant changes beyond the village since 1960 include the construction of the A69 and Walbottle Campus, the demise of the collieries (Coronation Pit and North Walbottle Colliery have been built over by the North Walbottle housing estate), the infilling of the whinstone quarry (now, along with the surrounding fields, covered by Chapel House and Chapel Park housing estates) and Walbottle Quarry (now a school field). The persistent influence of earlier landscape features is shown in the fact that despite

extensive urbanisation, the blocks of twentieth century housing respect the former boundaries, lanes and waggonway routes.

2.7 Whorlton

Whorlton is the only township within the study area which did not evolve from a village of medieval origin, or at least no medieval reference has yet been found. Wrathmell (1975) deduced that if Whorlton does represent an abandoned medieval settlement, it must have been deserted before the late thirteenth century as it is not mentioned in the Lay Subsidy of 1296.

The earliest depiction of Whorlton is the plan of 1620 (AC O/xvii/1; fig. 276), which shows two houses or farms within irregularly shaped fields of pasture and meadow, bordering the moor land. Much of what becomes the township of Whorlton was, in 1620, part of 'Newburne, Walbotle and Butterlaw Common'.

Documentary sources indicate that Whorlton township was formed by the mid seventeenth century, probably due to the expansion of farms beyond Butterlaw village, and probably in turn causing the desertion of Butterlaw (see section 2.1). In 1613, Mayson's survey (AC A/iv/2) includes Whorlton. East Whorlton is listed in a 1685 rental (AC B/i/3) and the Cruddas family manuscripts of 1696 mention 'West Whorleton' (NRO 1523/3/5, 6). A rental of 1714 describes Whorlton Moor Cottages (AC B/vii/2b) and another for 1756 includes East Whorlton (AC B/vii/5). Between 1760 and 1770 we know that a constable was appointed for East and West Whorlton (SH K/i/5; Dodds 1930, 158).

Landscape development in Whorlton has been spectacular. The moorland, meadow and pasture of 1620 had by 1710 (AC O/xvii/2; fig. 277) been encroached upon to create more agricultural land for a number of large houses or farms. Two of the three houses survived into the nineteenth century. Stamfordham Road today is a major thoroughfare, and cartographic evidence shows that part of its route was laid out by 1710 as the Dissington to Newcastle road. A 'coal way' leading south towards the river

from the Newcastle road, indicates that mining activity was still being undertaken on the moor. Continuous name changes to the properties in Whorlton create difficulties when tracing the historical development of the township. For instance, the plan of the Lordship of Newburn of 1767 (NRO Sant/Beq/9/1/1/24) labels Mr Cally's house as Whorleton, Mr Auston's house as Whorleton Moor House and another farm named West Whorleton has been built. These names change again on subsequent maps.

No other township within the study area more clearly demonstrates the impact of enclosure than Whorlton. There is no starker contrast than comparing the maps of 1620 and 1710 with the map of 1767 (NRO Sant/Beq/9/1/1/24; fig. 279), when the open countryside was divided into a patchwork of regular fields and very straight roads. This arrangement of fields largely survives. The development of the farms is interesting as the success or failure of the farming establishments must have had much to do with the tenants. Anthony Errington's house (later Whorlton Hall) had by the mid nineteenth century, developed into a country house, with associated outbuildings, probably stables, set in a square park planted with trees, and accessed by a carriage road and footpath from the Butterlaw road.

Whorlton Hall, as we shall later see, was the home of a string of successful industrialists who lavished money on creating a seat suitable for a country gentleman. East Whorlton House was probably superseded by Low Whorlton by 1847 (fig. 281), which was insignificant in size, and had disappeared completely by 1898 (fig. 285). Low Whorlton was tenanted in 1847 by Riddell Robson, who also held West and East Whorlton (later amalgamated and rebuilt to form Whorlton Grange, a large characteristic planned nineteenth century farmstead with buildings on four sides around a central fold-yard). It is suggested that the tenant developed the latter, a planned farmstead, at the expense of the former.

Enclosure must have continued swiftly throughout the eighteenth and early nineteenth centuries, because by the tithe map of 1847 (NRO DT 509 M) the landscape, still owned in its entirety by the Duke of Northumberland, but by now rented to five individuals, had been divided up into a complex of enclosed geometrically shaped fields with very straight boundaries. In contrast to the pasture, meadow and moorland of 1620, most of the neatly hedged fields of Whorlton in 1847 were under crop, oats being the dominant variety. The apportionment shows that there were 2 acres of woodland, the majority of which were the plantations within the parkland of Whorlton House. The farms within the township were served by straight roads, typical of enclosure. The Gingling (later Jingling) Gate public house (figs. 52, 53), also held by Riddell Robson, would have served the needs of weary travellers on the main west - east thoroughfare through the township and the horses could be re-shoed at the neighbouring blacksmith's workshop. The name 'Holy Land' probably indicates glebe land.



*Fig. 52 Jingling Gate Public House, date unknown
(copyright J.T. Allison after Allison and Walton 1989)*



Fig. 53 Jingling Gate Public House, Stamfordham Road 2006 (copyright author). The fine building shown on the photograph above is hidden under a mock 'Tudorbethan' façade, a porch has been added, a door and the gable-end window blocked up and the remaining sash windows have been replaced by plastic frames.

Agriculture may have drastically changed the appearance of Whorlton's countryside, but industrial activities also played their part. A whinstone quarry is shown straddling the stream and in the midst of the fields south-east of East Whorlton is an old engine and waste, presumably connected to former coal workings, 'old' suggesting that it is out of use. Field names, such as 'Pit Field', West and East 'Colt Holes', West and East 'Alice's Hole' suggest the earlier presence of coal workings.

A few minor field boundaries had been removed by 1898 (fig. 285) and there had been more changes at Whorlton Hall including the addition of a gate lodge (fig. 54). The whinstone quarry is shown as 'old' suggesting that it is out of use.



*Fig. 54 Lodge to Whorlton Hall in 1980s (copyright HER) and 2006 (copyright author).
The gate lodge was added to the parkland by 1898.*

The parish church of St. John (fig. 55) had been built to the west of the Gingling Gate in 1866 and Whorlton School (fig. 56) had been constructed by 1898 on the road between Whorlton Hall and Butterlaw. The separate ecclesiastical parish of Whorlton was formed in 1900 and included the townships of Callerton, Black Callerton, High Callerton, Butterlaw, East and West Whorlton, North Walbottle and Westerhope (Armstrong 1973, 6).



*Fig. 55 Church of St. John, built 1866, designated as part of Local List
(copyright author)*



Fig. 56 Whorlton School was built by 1898 – now converted into dwellings (copyright author).

By this time the village of Westerhope had begun to develop with houses set in large allotment gardens extending up to the south-eastern boundary of Whorlton. Primrose Cottage had been built opposite Red Cow Farm.

Despite the urban expansion on its boundaries, Whorlton remained rural and agricultural until 1921 when the first housing estate had impinged into the former fields. Suburbia had reached Whorlton. Interestingly enough the estate is confined within the former field boundaries, which suggests as elsewhere in the study area that individual fields were sold to housing developers on a piecemeal basis. Also by 1921 the parish church had been provided with a parish hall, graveyard and vicarage (fig. 57), rows of stone cottages replaced Red Cow Farm (fig. 58) and schools were built on Hillhead Road.



Fig. 57 Whorlton vicarage and graveyard were added by 1921 (copyright author).



Fig. 58 This is one of a row of cottages built on the boundary of Whorlton and Westerhope on the site of Red Cow Farm. The other remaining stone properties built between 1898 and 1921 (below) are now converted to a key cutting shop and fencing contractor's workshop (copyright author).





Fig. 59 This institute, dated 1925, was built next to the in-filled whinstone quarry, along with a recreation ground and football pit (copyright author).

It is remarkable how little the landscape had changed by 1960 (fig. 287). The biggest impacts were the creation of Westerhope golf course (fig. 60) with the former farmstead of Whorlton Grange at its centre and the construction of a major road (A696) over the topmost corner of the township.



*Fig. 60 Westerhope Golf Course (copyright author).
Its creation necessitated the removal of several field boundaries and the planting of trees in the former arable fields but as will be discussed in chapter three, the golf course retains superb ridge and furrow earthworks.*



Fig. 61 This photograph shows the destructive impact of opencast mining. Extraction of coal has removed the fields to the immediate north of the grounds of Whorlton Hall including a stretch of the Whorlton Burn. The northern edge of the opencasting is the Whorlton township boundary. The photograph also shows Whorlton School and Butterlaw Farm (copyright R&I 10991219, 7 September 1991)

Today, in 2007, the old Whorlton Hall has long gone, replaced by a nursing home of the same name (fig. 62), but the cottages survive. There is a stark contrast between the green field north of Stamfordham Road, and the dense arrangement of houses to the south. Westerhope has amalgamated with the modern housing estates of Chapel Park, Whorlton Grange, Newbiggin Hall and West Denton, but fascinatingly enough the street and road patterns of these developments do to a degree respect both the township boundary and former field boundaries (fig. 288), explaining why these residential estates are often peculiar shapes. The metro line and Jedburgh road have cut through the countryside, and opencast mining has caused destruction (fig. 61) but either side of these features the boundaries survive.



*Fig. 62 Driveway to the new Whorlton Hall (copyright author)
The old Hall was demolished in the twentieth century.*

2.8 Conclusion

The major moments of change in each of the townships are summarised in the following table. The major forces of change were agricultural transformation, enclosure and industrialisation. These themes will be fully explored in the following chapters.

+

+

+

+

+

	medieval - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - present
Butterlaw	Small settlement, probably with a green, presumably surrounded by open fields. Land divided into 6 tenements by 1567.	Settlement devolved into small complex of buildings or a single farm. Major change in land use - irregular shaped fields for pasture and meadow. No arable land at all. Land now in hands of separate tenants. No longer subject to common rights.	Period of enclosure by agreement. Presumably at least some of the newly enclosed fields are used for arable. Major change in field arrangement. Boundaries are regular in size and shape. Butterlaw Farm takes the form of a 'C' shaped structure. Land divided between farming and industrial interests with the appearance of a colliery waggonway.	Another major rearrangement of field boundaries and field names by 1847. Waggonway is removed. Butterlaw Farm, in the hands of a single tenant, takes appearance of a typical U-shaped northern farmstead set around a fold-yard. Almost all of the land is now arable.	Minor field subdivisions. Butterlaw Farm converted to housing. Construction of Callerton mining village and sewage works alongside township boundary.
Dewley	Small settlement surrounded by 'waste' - probably unimproved common pasture. Village becomes either deserted or shrunken. Land leased out to the tenant of the manor house in Newburn by at least 1567.	House or farm surrounded by open demesne pasture land. Settlement probably devolves into a single farm under a single tenant.	Period of enclosure by agreement creates system of regular arable fields in northern part of township. Complex of coal pits served by a network of waggonways. Dewley Burn is straightened for Throckley Mill. Dewley Farm takes the form of a 'C' shaped building.	Southern part of township is enclosed. Coal pits, quarry and waggonways fall out of use. Like Butterlaw, Dewley Farm develops into farmstead set around a fold-yard. Cottages built at the farm. Complex called Dewley built. Dewley Burn further straightened.	Minor alterations to field boundaries. Removal of largest spoil heaps. Construction of A69 has destroyed Dewley. Land still used for agriculture. Dewley Park House built.
Newburn	Early Norman borough which devolved into a large two-row village after 1201. Site of parish church and manor house. Surrounded by open fields.	Linear village surrounded by meadow and arable land divided into irregular furlongs and strips.	Period of enclosure by agreement. Fields are subdivided and boundaries straightened. Military Road and colliery waggonways built.	Major period of industrialisation. Steelworks opened in 1822, Newburn Waterworks 1855. Construction of terraced workers' housing expands the village. River Tyne is widened and deepened. Newburn Bridge built to replace the ford. Newburn Grange Farm built.	Major period of council house building on former fields. Clearance of old stone cottages. End of industrial era. Steelworks and brickworks close.

	medieval - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - present
Newburn Hall	Demesne land surrounding a pele tower, later Newburn Hall. There was a water mill here in 1528, and Lamedon House was in existence in 1559.	Demesne pasture and meadow land in large irregular plots plus woodland. The village of Lamendon is established by 1620 next to coal pits and the staiths. Three large houses - Newburn Hall, John Snowdon's House, Henrik's House.	Period of enclosure by agreement divides the pasture and meadow into rectangular fields. New enclosure period farm - Hill Head set in new fields. Major period of industrialisation - iron works and glassworks open with workers cottages alongside. Network of colliery waggonways built. Clearance of woodland.	Period of industrial expansion - sand quarries and railway. Huge rolling mill for the steelworks built. Lemington village expands with further terraced dwellings and a parish church and merges with neighbouring settlement Bell's Close. River improvement works isolate the staiths and bring end to major industry. Fields are further divided.	Houses and industrial estates built in former fields. Cemetery, power station and hospital appear. Sand extraction reaches maximum extent in 1960, then quarry closes. Newburn Hall demolished. Railways fall out of use. End of industrial era.
Throckley	In the medieval period it was a small two-row village set in open fields near to a wood.	Linear village surrounded by irregular fields and woodland. There is a water mill on Dewley Burn.	Enclosure by agreement redesigns the field and road system. New farm at Fell Butts. Boundaries straightened. Period of industrialisation - Throckley Engine, coal pits and waggonways. Military road is built. New water mill built with a race on boundary with Dewley.	Major changes in shape of fields. Industrial expansion - sandstone quarry opens on site of village. Some coal pits go out of use, others like Meadow Pit become large collieries. Reservoir created. Brickworks and Isabella Colliery appear. Settlement shifts to new toll road. Throckley House built.	Throckley expanded with new housing. A69 built. Opencast mining destroys water mill. Collieries out of use and reclaimed.
Walbottle	Medieval village with green surrounded by open fields.	Green village set in three open fields. Common land to the north. Minor industrial activity represented by three coal pits and a sandstone quarry.	Period of enclosure by agreement. Grid of regular fields created. New farms Fell House and Coally Hills. New road system across former common. Military road built. Period of industrialisation - coal pits and waggonways.	More changes to field system. Major expansion in industrialisation - new collieries. Increase in worker's housing.	Worker's villages created around Coronation and Blucher Pits. Northumberland Gardens estate built. Walbottle village substantially rebuilt. Since 1960 collieries out of use and built over by large housing estates. Quarry infilled. A69 and Walbottle Campus built.

	medieval - 1600	1600 - 1700	1700 - 1800	1800 - 1900	1900 - present
Whoriton	No documentary evidence found for a medieval settlement. This is common land.	Two large houses set in irregular fields of pasture and meadow. Township created by mid seventeenth century. Coal was being extracted from the common land.	Moorland encroached upon by 1710 to create more agricultural land for a number of houses or large farms. Newcastle to Dissington road set out. Period of enclosure divides common land into regular fields. New farms West Whoriton and Red Cow. New road system and waggonway.	Further changes to field system. Whoriton develops into a country house set in formal parkland. Low Whoriton disappears. West and East Whoriton rebuilt as planned farmstead Whoriton Grange. Jingling Gate public house, the church and school built. Whinstone quarry in use throughout C19 but out of use by 1898.	Housing estates built over some of former fields. Vicarage and a school built. Westerhope Golf Course destroys former field boundaries. A696 and metro line built. Whinstone quarry infilled. Whoriton Hall demolished.

Table 1: This table represents a timeline comparing the major periods of landscape change in the townships of the study area.

Butterlaw and Dewley devolved into single farmsteads during the sixteenth century having been leased out to tenants. The seventeenth century saw the creation of Whoriton township, Lemington village and the beginnings of industrial development with the appearance of coal pits, staiths and quarries. Enclosure by agreement in the eighteenth century changed the irregular fields of the study area into a neat patchwork of geometric plots. New farms were built in the fields, where previously they had been on the village street. At the same time industrialisation expanded in the form of numerous coal pits served by waggonways, iron works and glass works, and a new toll road was built. Rows of workers' houses expanded the villages of Newburn and Lemington in the nineteenth century and the focus of Throckley village moved to the main road. Large-scale coal mining and quarrying, steelworks and the development of the railway scarred the agricultural land. In the twentieth century industry declined and poor quality cottages were replaced by expansive estates of semi-detached council dwellings.

Chapter Three

Agricultural Change

3.1 Agriculture

The medieval agricultural system required a combination of arable, pasture, meadow, waste and woodland in order to provide the necessary arable crops and raw materials for the population and to feed the domesticated animals (Aston 1985, 93; Roberts 1987, 106; Newton 1972, 74). The following sections will discuss the agrarian use of the manorial landscape through time.

3.1.1 Arable

Much of England was still worked under the traditional open field system in 1700 (Wild, 2004, 23 ; Darby 1963, 469) and so by examining both medieval and post medieval documentary and cartographic evidence, we can surmise how the manorial court of Newburn is likely to have organised the agricultural system during the Middle Ages and beyond. Butlin advises that although comparatively little is known in detail of land management in Northumberland and Durham between 1550 and 1750, there is sufficient information in documents to outline the general principles of arable land management (Butlin 1973, 132).

3.1.2 The Open Fields

Open field systems in their simplest form consisted of two or three large fields on either side of the village (Kerridge 1967, 159-160). The resultant exposed landscape being

'rather bleak and featureless' (Williamson and Bellamy 1987, 11). In 1293 three such fields are mentioned in Throckley, '*Bradeschawe*', '*Grymeslawecrok*' and '*Hulunfriding*' (SS vol. cxvii, 304, 314; Dodds 1930, 160). Newburn had four or more common fields (Butlin 1964, 101). Walbottle had a three-field system of some 550 acres during the medieval period (Butlin 1964, 101) and these are possibly represented by *Quarry Field*, *West Field* and *East Field* on the 1620 plan of the manor (Butlin 1964, 104; AC O/xvii/1; fig. 260). A survey of Walbottle in 1647 (AC A/vii/6) recorded that these three fields were divided into a mixture of arable land and meadow, presumably a later land-use change. Butterlaw and Whorlton had no arable land at all in 1620, only pasture and meadow.

The terms 'flatt' and 'rigg' appear frequently in fieldnames, which is suggestive of former arable farming (flatt is another name for furlong, shott, wong or fall and these were subdivided into strips of land known as selions, riggs or lands; Rowley and Wood 2000, 33). Examples include *Deedrich Flatt*, *Fouletch Dike Flatt*, *Whit Crofts Flatt*, *Claye Flat*, *Layland Flatt*, *Horswell Flatt*, and *Bayne Riggs* (AC O/xvii/1).

The large fields shown on the plan of 1620 (AC O/xvii/1) were subdivided into smaller parcels, presumably echoing earlier furlongs, of varying shapes and sizes and then into strips running in the same direction. For example, *Heigh Field* is divided into *Under the Walles* (referencing the location of Hadrian's Wall), *Whit Crofts Flatt*, *Midle Breny Leiz*, *Nether Breny Leaz*, *Butts at Leam Gate*, *Oppenster Hill*, *Nether White* and *Long Fleaw*. This is typical of the open field system where the strips or selions, were held by the tenants, lord of the manor and the parson, divided across the three fields, and were ploughed by communal plough-teams (Rowley 1982, 28, 29, 30).

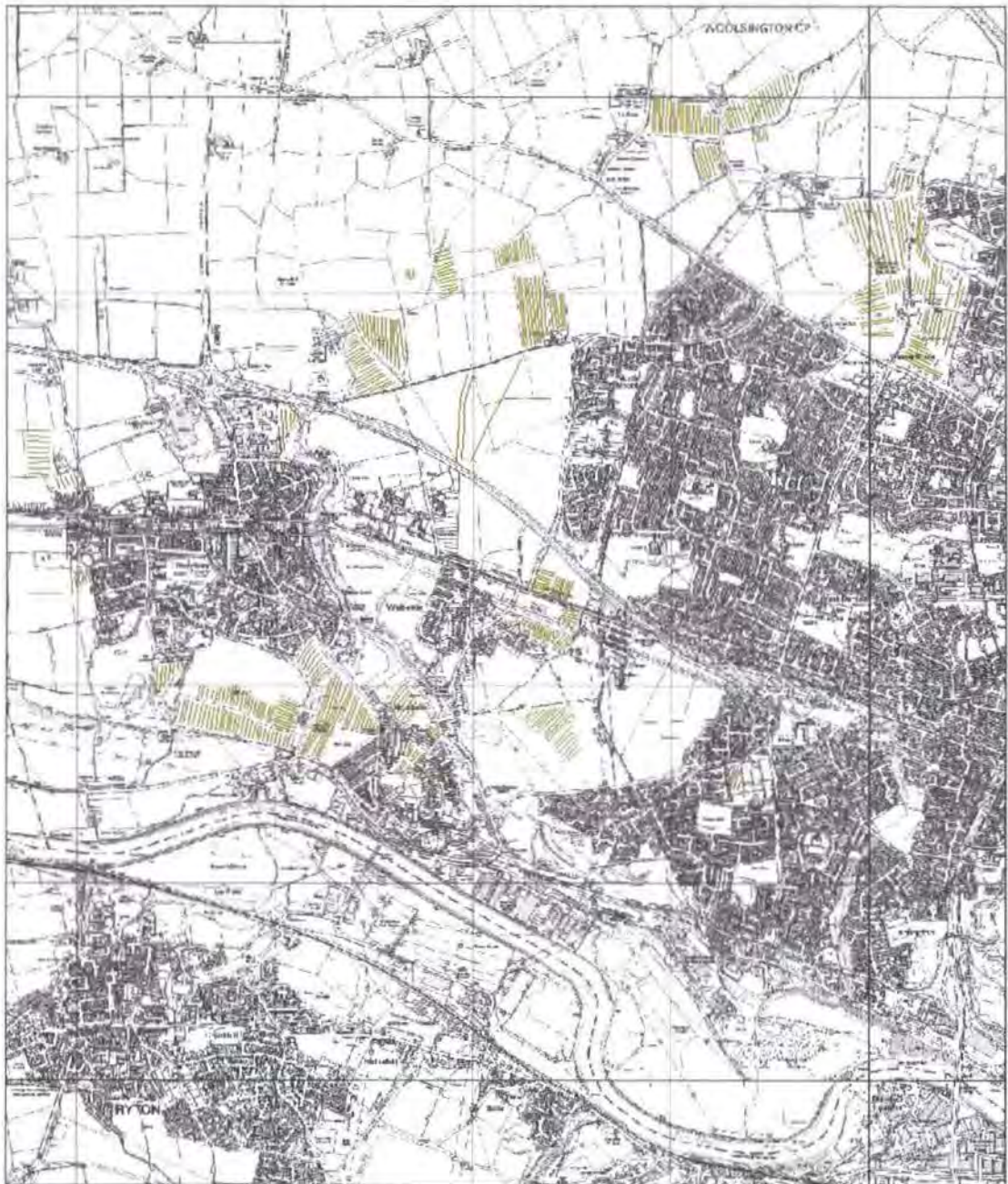
Where there were three main fields, crops were sown in two of them on a rotation basis (Homans 1960, 55; Stamp 1946, 476). All land within a furlong was planted with the

same crop (Williamson and Bellamy 1987, 11) whilst the third field would lie fallow each year to rest and to be manured by grazing animals (Butlin 1973, 132).

It seems likely from the documentary and cartographic evidence discussed above, that in the manor of Newburn, the three field system operated. In 1613 (AC A/iv/2) Walbottle had three common arable fields within which the holdings were distributed in the ratio of 1:1:11/5 which Butlin (1964, 104) notes represents a simple three field system.

The Runrig or infield-outfield system, where the infield was continuously cultivated until exhaustion without any fallow period but was heavily manured, and the outfield provided grazing while it recovered, appears to have operated more on poorer upland ground further north and west with less land for arable use (Rowley 1982, 36-37; Roberts 1977a, 96; Wade-Martins 1995, 36-37; Butlin 1964, 115). Although both Darby (1963, 469) and Smailes (1960, 93, 94) state that farming in Northumberland was more like the Runrig system than the Open Field, Butlin (1964, 114) says that documentary evidence for the infield-outfield system in Northumberland is 'not substantial'. Smailes' evidence, according to Butlin is based on the enclosure award for Gunnerton of 1741 which mentions 'ingrounds', 'outgrounds' and 'intacks' (Butlin 1964, 118). There are various references to 'intakes' within Newburn manor, which were typically portions of an outfield which were brought into cultivation for a few years then reverted to waste, such as the intake and close shown in Butterlaw in 1620 (AC O/xvii/1), the 'Walbottle Intacke' listed in a rental of 1651 (SH A/ii/11b), West and East Intack of 1647 (AC A/vii/6) and Blackett's Intake and Cargree's Intake at Whorlton in 1767 (NRO Sant/Beq/9/1/1/24) but no use of field names like 'oldfield' and 'oldland' which Aston (1985, 129) suggests may indicate earlier infields.

There is no clearer evidence for former arable farming than the earthwork remains of ploughing activity which survive in the form of ridge and furrow in fields now reverted to pasture (Rowley 1982, 25; fig. 63). Such earthworks are a common sight across much of Northumberland (Newton 1972, 92; Beresford 1954, 371) however these are not necessarily medieval (Taylor 1975, 71). They date from the last occasion on which fields were ploughed and so are often as late as the eighteenth or nineteenth centuries (Rowley 1982, 28, 47-48). Nevertheless ridge and furrow can sometimes preserve the form of an old field system and in many areas is the only indication that extensive arable cultivation was ever undertaken and suggests that there might have been open fields in an area (Baker and Butlin 1973, 35).



Legend

— extant ridge and furrow



00 125 0.5 Kilometers

Fig. 63 Indicative plan showing the location and orientation of surviving ridge and furrow earthworks in the study area. For an urban area, the degree of survival is surprisingly high. Based on aerial photographs held in Newcastle City Council's Planning and Transportation Division collection (Fairey Surveys 1974; BKS Surveys 1981 and R & I 1991).

Newburn is not blessed with the plethora of ridge and furrow earthworks found in northern Northumberland, because former arable land has largely either remained under or has returned to the plough, although this plan shows that some survives. It is ironic that evidence for medieval farming practices which in effect formed much of our present rural landscape is now being destroyed by modern agricultural techniques (Williamson and Bellamy 1987, 208).



Fig. 64 Extensive ridge and furrow earthworks survive at Whorlton at Westerhope golf course. The golf course is located within the former extent of the common (AC O/xvii/1) which suggests that the extant earthworks relate to ploughing which took place after the common was enclosed.

Modern ploughing has removed the earthworks from the adjacent fields. In the centre of the golf course is Whorlton Grange Farm, which is discussed in section 3.1.5 and chapter eight.

The building at the south-west corner of the golf course in a large car park is the Jingling Gate Public House, discussed in section 2.7 and chapter six (copyright R&I 10591062, 7 September 1991).



*Fig. 65 Ridge and furrow on the eastern half of Westerhope Golf Course. Some of the best ridge and furrow earthworks in Tyne and Wear survive on golf courses (e.g. Gosforth, Whitley Bay and Wrekenton) because the land remains under grass with minimum landscaping for planting, greens and bunkers. In contrast, evidence of former ploughing has been removed during the landscaping of the adjacent playing fields
(copyright R&I 10591064, 7 September 1991)*



*Fig. 66 Ridge and furrow earthworks preserved at the golf course.
(copyright author)*

The ridge and furrow at Butterlaw, mentioned in section 2.1 (fig. 11), is straight and narrow, suggesting a late date. At Newburn further earthworks survive, at Hallow and Rye Hills either side of Newburn Grange Farm. The most surprising survival is the wide earthworks on the grassy slope immediately south of the Manor School, right in the centre of the village (fig. 67). These have escaped development through the fields use for recreation. At Lemington the sole remnant is in an unused part of the cemetery (fig. 68).



Fig. 67 Ridge and furrow in the playing field south of Newburn Manor School. (copyright author)



Fig. 68 Much reduced ridges survive in the unused half of Lemington cemetery.

Upstanding ridge and furrow earthworks, 4.5m between ridges, survive in the pasture south and east of Dewley Farm, in the fields around Fell House Farm and between different branches of the Walbottle Moors Waggonway, which was in use from 1769 to 1820. The ridges can be approximately dated by the fact that they lie at right angles to the waggonway with a headland running alongside. As the earthworks respect the lines of the waggonway, this narrow ridge and furrow must post-date the construction of the

waggonway (The Archaeological Practice 1992, 8). There are also earthworks to the north of Walbottle Hall, and their pattern respects the line of the Roman Vallum.

Ridge and furrow was recorded during an evaluation in Dewley in 1994 as earth-filled depressions in the subsoil. The excavators suggested that this could potentially represent pre-1367 agriculture within one of the town fields of Dewley village (The Archaeological Practice 1996a, 11) because ever since 1620 (AC O/xvii/1) Dewley has been pastureland.

Thus ridge and furrow earthworks survive in various parts of the study area, which is a rare survival in an urban setting. There has not yet been a comprehensive survey of ridge and furrow in the north-east. Transcription and survey may aid the process of dating and may show variation in form.

3.1.3 Crops

Medieval subsistence comprised of grain (millet, oats, barley, rye and wheat or a combination of barley and oats to form drage or wheat and rye to form maslin), peas and beans, baked into bread, brewed into ale or boiled into porridge or puddings (Butlin 1973, 134; Kerridge 1967, 159-160; Postan 1966, 161; Williamson 2003, 66). The Lay Subsidy Roll of 1296 lists Adam the brewer (*'brasiator'*) (Fraser 1968, 65, no. 149). We know that there was a manorial brewery in 1367 (SS vol. cxvii, 433; appendix two). The 1620 plan shows a field possibly used for growing cereals called 'Bread Close' (AC O/xvii/1), the name perhaps recalling how important bread was in the diet. Botanical analysis on samples taken from archaeological excavations in the northern region have shown that bread wheat and oats were dominant in the medieval period, with barley and rye, peas and beans also common (Huntley and Stallibrass 1995, 75, 83).

Vegetables such as leeks, onions, spinach or cabbages and herbs for medicine, mushrooms, berries and fruits could be grown in the garden crofts and tofts (Donkin 1976, 91; Aston, 1985, 105; Postan 1966, 165), such as those shown at Walbottle and Newburn on the 1620 plan (AC O/xvii/1).

Post medieval miners' cottages typically had small yards rather than gardens, which led to the development of allotments which served the same purpose as the medieval tofts and crofts. Blucher and Walbottle in particular had extensive allotment gardens, which would have been used to grow vegetables and keep pigs and poultry. Crees for racing pigeons were also a common site on later allotments (Smailes 1960, 191). On the north side of Hexham Road the miners' allotments, shown on plans from 1808 (NRO ZAN Bell 14/5; fig. 266) survive. The heavy soils and weather were not suitable for large-scale fruit cultivation (Smailes 1960, 189) but Newburn was apparently renowned for its early and excellent fruit (Mackenzie 1811, 473) and vegetables from gardens at Newburn supplied the daily market at Sandhill in Newcastle (Middlebrook 1950, 151).

Township	Wheat bushels	Barley bushels	Oats bushels	Ref
Butterlaw	34	0	88	NRO DT 80 M
Newburn Hall	60	107	155	NRO DT 342 M
Throckley	113	0	289	NRO DT 448 M
Throckley Fell	94	167	241	NRO DT 449 M
Walbottle	246	437	630	NRO DT 468 M

Table two: The nineteenth century tithe maps are useful in showing what crops were commonly grown and the average crop yields at that time (Williamson 2002, 148). Output of oats was greater than wheat and barley, because the Newburn soils were best suited to oats (Stamp 1946, 474-475). The tithe was a tenth of all produce owed by parishioners to their church (Butlin 1973, 137).

3.1.4 Agricultural Revolution

The late seventeenth and early eighteenth century saw the introduction of several improvements and agricultural innovations into the study area, demonstrated by cartographic and documentary evidence. Two fields in Throckley below the Dewley Burn had been 'subject to improvements' according to the 1620 plan (AC O/xvii/1). A rental of 1651 mentions an improvement called the 'Deane' and improvements called the 'Intacke' (SH A/ii/11b). A lease dated 1 December 1703 relates to lands and tenements known as the 'Walbottle Improvement' (PRO E 14/331). These fields are likely to have been subject to a number of changes such as the introduction of artificial grasses, fertilisers and field drains, measures which enabled new land to be brought into cultivation for the first time or improved the soil and increased crop production. Agricultural improvement and intensification in the seventeenth century is a distinctive aspect of the region and is associated with feeding the population of Newcastle.

Artificial grasses (such as clovers, sainfoin, rye-grass, trefoil and alfalfa) restored nitrogen to the soil and turnips (Taylor 1975, 119; Williamson 2002, 2, 142) and carrots and parsnips, previously only grown in market and kitchen gardens, were introduced as field crops (Cantor 1987, 50; Williamson 2002, 2) to feed the stabled livestock over the winter (Williamson and Bellamy 1987, 98; Manning 1988, 11; Patten 1979, 18; Wrathmell 1975, 207-8). Bailey and Culley reported that the Newburn soil was more suitable for swedes than yellow and white turnips, yet describe the sandy gravelly dry loam of Newburn as 'turnip soil' (Bailey and Culley 1797, 2). A valuer's report states that there was 'an absence of turnip land' on Fell House Farm and that due to the 'land of weak character available for growing roots' Dewley and Fell House, held by the same tenant, were worked together (NRO ZAN Bell 71/8). Dewley Farm had a calf house used for turnips and a turnip house used for boiling and it produced turnips of 'extra good quality', the 'best turnips in the north' (NRO ZAN Bell 71/8). These new crops were grown on fields previously left fallow and unproductive (Kerridge 1967, 15;

Manning 1988, 10). Industrial crops such as cole-seed (oil for lamps and soap), flax, hemp (fibres for linen, canvas, rope and netting), woad, weld and madder (dyes for cloth) were more widely cultivated at this time (Cantor 1987, 49; Postan 1966, 164), although no specific documentary reference has been found for these crops in the study area.

For the first time, the soil was artificially fertilised (with manure, soot, sawdust, stone marl, shell marl, seaweed, coal dust, industrial refuse and lime, Stamp 1946, 476-478; Wade-Martins 1995, 101). The countryside saw an increase in the number of lime kilns, once lime was used to improve soil. There was a kiln at Walbottle near to Duke Pit in the early nineteenth century (map held by Newburn Library). Another improvement was the introduction of covered field drains to draw off surface water (Kerridge 1967, 15). Bailey and Culley (1797) record that in Northumberland, hollow brick drains were filled with stones. Hand-made clay pipes were introduced at the end of the eighteenth century; later tile drains (Wade-Martins 1995, 102-103; Williamson 2002, 143).

Early agricultural improvement and intensification in large demesne estates such as this is well-documented and is a distinctive phenomenon of this region because the farmers of south-east Northumberland were supplying the ever-increasing population of the town and surrounding mining communities (Wrathmell 1975, 169-73; Graves 2002, 175-185). Despite this area's suitability for arable, Northumberland was short of corn. Rye, for example was imported into Newcastle from Danzig (Yelling 1977, 176). Seventeenth century meat bones recovered from archaeological excavations at the Mansion House in Newcastle demonstrated selective animal husbandry (Davis and Bullock, 1995, 191, 194-5; Graves 2002, 182).

3.1.5 High Farming

By the nineteenth century (the years 1850 to 1870 have been called the 'Age of High Farming') further technical changes had effectively transformed farming from self-sufficiency into an efficient and specialised industry (Wade-Martins 1995, 101; Williamson 2002, 3, 139). Farms introduced mechanical power in the form of gin-gangs or steam engines for activities such as threshing (Linsley 1985). Whorlton Grange (fig. 69) was a mechanised farm with an engine house and boiler house (HER 1933; NMR NZ 16 NE 136; Ayriss and Linsley 1994, 62, 63). At Dewley Farm in 1885 there was a portable engine, threshing machine, French millstones, chaff cutting and corn cutting machines driven by steam power and powerful steaming apparatus for cooking chaff, straw, meal, turnips and potatoes for feeding the livestock (NRO ZAN Bell 71/8). Northumberland is notable in the number of tenant farmers financing mechanisation (Williamson 2002, 148). The rapid adoption of threshing machines may have been due to a shortage of labour (Wade Martins 1995, 87) presumably due to the industrial competition.



Fig. 69 Whorlton Grange – the presence of the chimney shows that this was a mechanised farm, with an engine powering the threshing machine (copyright HER). Farm mechanisation was a key feature of the 'High Farming' era of the nineteenth century.



3.2 Meadow

The plan of the manor 1620 (AC O/xvii/1) gives some indication of the distribution of meadowland in the early seventeenth century. The fields of Butterlaw, (fig. 198) lying alongside the Butterlaw Burn, were a mixture of meadow and pasture. Fleets Close, Little Field, Butterlaw Crofts and, as the name suggests, Anthony Errington's Meadow were all utilised as meadowland. Like other Norton maps of the Percy estates, the 1620 plan indicates land quality by portions of the Maltese cross (Baker and Butlin 1973, 10-11). In Butterlaw for example, Fleets Close was graded as one cross, Butterlaw Crofts two crosses. In Newburn Hall the meadow was graded at two crosses. In Newburn Ulmer Meadow was 'given in exchange by Mr Radcliffe for eatercommon [rights of pasturage perhaps] in Throclave'. Other Newburn meadows on the banks of the burn and River Tyne are West Haugh, Shotholm Nook Close, Ely Hill and Grindstones (this field name is discussed in chapter four). Much of these were part of the lord's demesne.

Dentes Meadow or Tench Meadow (AC B/i/6; Dodds 1930, 149), removed by the River Tyne Commissioners in the 1800s, was an area of high ground which formed an island in the River Tyne south of what is now Newburn Haugh. At high tide the island was susceptible to flooding (NRO ZAN Bell 71/7) and would therefore have provided ideal meadowland. No fields in Walbottle are identified as meadow but fieldnames Marsh lands, Meadows and Low Medow, situated on the eastern bank of the New Burn (fig. 261), are suggestive of this use. The land in Throckley is identified merely as freehold, and whilst the fields are named, the use of the land is not stated.

A survey of Newburn 1710 lists Ellinos Meadows 17 acres and The Bogg Meadows 11 acres (AC A/vii/9). In 1748 Ely Hill, the Grindstones and Elm Meadows were leased to Richard Hobbs from 1724 at a rent of £24 (AC B/i/10).

Rackham suggests that the names leah, ley, lea, or leaze mean meadow (Rackham 1986, 333). The term can also mean common land subject to rights of pasturage (Richardson 1974, 22). The map of Throckley dated 1736 (NRO Sant/Beq/1/1/34; fig. 248) shows a field called Brancy Leeses which could have been a meadow, but it is worth noting that the 1620 map (fig. 218) shows Midle Breny Leiz and Nether Breny Leaz which are arable fields (AC O/xvii/1). Slade is another word for meadow (Beresford 1957, 85) or valley (Richardson 1974, 19) but there are no slades in the study area.

Grass was essential for feeding the village sheep and cattle and so the meadows of the study area were valuable (Rowley 1983, 188; Butlin 1973, 134). An acre of meadow was worth two or three times more than an acre of arable (Homans 1960, 41; Darby 1976, 50). Reed (1990, 135) says ten to fifteen times more. Lennard (1959, 264) points out that an exceptional amount of meadow shows the importance of cow-keeping presumably for their milk which could be used to make cheese and the manor would have charged dues of cheese.

Low-lying meadowland or mead land, on land bordering the Ouse and New Burns was liable to flood. It would have been damp for much of the year and so undoubtedly produced an abundance of grass which was cut for hay and fed to the animals over the winter (Williamson and Bellamy 1987, 12; Wild 2004, 10). These meadows; divided into strips or dales and allocated to tenants like the arable land (Butlin 1973, 135; Williamson 2003, 163; Rackham 1986, 377), would have also provided reeds for floor coverings, roofing and containers (Aston 1985, 105). Once the hay had been cut, the meadow could be used for grazing until the new spring growth (Wild 2004, 10; Aston 1985, 103; Butlin 1973, 134-135; Darby 1976, 47, 50). Meadows were sometimes protected by a ditch or fence to keep out wandering cattle (Butlin 1973, 134). Perhaps

no such protection existed in the study area because a document of 1250 describes the cattle escaping '*from the lead waye to the Vtmedowe*' (SH J/vii/4a).

3.3 Pasture

We can learn much about the pasture in the study area from documentary sources. The cattle mentioned in the Throckley agreement of 1250 also strayed into the '*pastor of Hallewelle*' (SH J/vii/4a). In 1258 there was an inquiry by the King into encroachments upon the common pastures (Curia Regis Roll No. 186, 52-3, Henry III). Pastureland often included sheep walks and rabbit warrens (Wild 2004, 10). The Curia Regis Roll No. 186 of 1268 describes lands in Newburn where 'certain folk had made sheepfolds and purprestures [illegal tenure] in the pasture'. Richard of Swyneford, vicar of Newburn had raised a sheepfold (Newcastle upon Tyne Records Committee 1922). The Throckley Lay Subsidy Roll of 1296 lists Stephen the shepherd (Fraser 1968, 72, no. 172). Rabbits had been introduced into this country from France in the twelfth century and were both a diner's delicacy and a source of valuable fur (Betley 1993, 25; Donkin 1976, 98). At the quo warranto enquiry of 1293 Sir Robert son of Roger, lord of Warkworth, claimed in Newburn 'free warren' (Fraser 1968, 64, no. 148) but this refers to granted rights of hunting from the crown not to rabbit warrens (Betley 1993, 27).

The term '*gait*' as used in seventeenth century surveys is said to mean the stinting (restricting or control of level of stocking, Yelling 1977, 154) of pastures and Butlin (1973, 135) tells us that most of the Earl of Northumberland's townships recorded in the 1612-24 surveys had 'gaited' pastures. There are several fields incorporating this term on the 1620 plan of the manor (AC O/xvii/1) such as Whinwell Gait and Middle Howden Gait (figs. 262-3). Leam Gate and Hinden Gate (fig. 261) might alternatively indicate the presence of a physical gate.

The 1736 map of Throckley (NRO Sant/Beq/9/1/1/34; fig. 248) shows a field called Maddy's Pasture and there are references to cattle (Cow Holt and Calf Close) which suggest an economy which included dairying. In Whorlton in 1767 (NRO Sant/Beq/9/1/1/24) the grounds around what became Whorlton Hall are called Calf Close. In 1797 Bailey and Culley reported that dairying was important near Newcastle and the Newburn area in particular was being used for rearing young cattle. A few lowland farms in this area were grassland farms only, but the majority were mixed with pasture devoted to grazing cattle and sometimes breeding sheep. An increase in urban dairying is associated with the supply of Newcastle's Milk Market (Wrathmell 1975, 167), which had been held outside the Sand Gate from at least the late seventeenth century, a market keeper was appointed in 1717 (Heslop, Truman and Vaughan 1995, 217; Mackenzie 1825, 666). Land surrounding towns was turned to pasture in order to provide dairy products (Williamson and Bellamy 1987, 209). The rural economy in the north was certainly more pastoral than the agricultural south (Smailes 1960, 93). Dewley Township was entirely pastoral in 1620 (AC O/xvii/1; fig. 209). By 1875 Dewley Farm had a dairy and a cow house of 10 stands and calf pens (NRO ZAN Bell 71/8).

Township	arable (acres)	meadow and pasture (acres)	Field names indicating pasture	Ref.
Butterlaw	196	33	long pasture, calf garth, house pasture	NRO DT 80 M
Newburn	261	235	horse pasture	NRO DT 341 M
Newburn Hall	570	200		NRO DT 342 M
Throckley	520	150		NRO DT 448 M
Throckley Fell	450	77		NRO DT 449 M
Walbottle	905	272	cow's grass, the pastures	NRO DT 468 M
Whorlton	421	124	cow pasture and far cow pasture	NRO DT 509 M

Table three: Division of land according to nineteenth century Tithe Awards.

Meadow and pasture, which provided the animal's feed, always of course occupied a smaller percentage of the land than the arable fields, which fed the villagers. The nineteenth century tithe maps illustrate this comparison, where in most townships the meadow and pasture provision is about a third of the size of the arable land. Throckley Fell, once the common grazing land but enclosed since 1830, and Butterlaw are around a fifth of the size, which is interesting as in 1620, before enclosure, neither of these areas had any arable land.

The abundance of pasture in the study area shows that livestock was an integral part of the agricultural system. Lowland farms in Northumberland were primarily arable, but the rearing of sheep and cows was also fundamental (Petts with Gerrard 2006, 75). Dairy cattle aside, oxen were used for ploughing, hides, bone for glue, grease sinews, sheep provided wool, mutton and skins (Glasscock 1976, 159; Williamson and Bellamy 1987, 12; Wade-Martins 1995, 39). Grazing land for these beasts was primarily provided by the village pasture (Donkin 1976, 95), but also by post-harvest stubble in the arable fields, meadows, by fallow fields, headlands and the corners of fields (Rowley 1983, 188). The combination of cartographic and documentary evidence with analysis of vertebrate bones from archaeological excavations would be most useful. Studies of animal bones can indicate the increasing importance of sheep and goat bones at the expense of cattle and changes in the size of livestock (Huntley and Stallibrass 1995, 173-4, 187-8) which tie in with the agricultural revolution. The presence of neonatal calf bones on a farm site would suggest that the cattle were dairy animals (Huntley and Stallibrass 1995, 183).

Pigs were reared for their meat, and would have been kept in the village closes or taken to Throckley Fell, Newburn, Walbottle and Butterlaw Common or the neighbouring woodland to eat acorns and beechmast (Wade-Martins 1995, 39; Williamson 2003, 55). Ducks, geese, chickens and pigeons, which provided meat, eggs and feathers, were also kept near to the village in the closes or in the open spaces. Horses were usually kept as status symbols until they were later used for draught and transport; it is however possible that horse meat was eaten (Aston 1985, 105).

3.4 Discussion

Cartographic and documentary evidence is invaluable for understanding past field systems. However there is a danger of relying on field name evidence. Baker and Butlin (1973, 33-34) warn that such evidence is impossible to use in isolation because words can have more than one interpretation. With this in mind, the study of field names can still be beneficial, as the plans of the study area have demonstrated, by suggesting possible changes in field systems and in cultivation practices.

Documentary searches can be combined with archaeological techniques for a more balanced approach. Upstanding earthworks can be surveyed and cropmarks visible on aerial photographs can be transcribed, in order to better understand the age and stratigraphical relationships between interconnected features. The surviving ridge and furrow in the study area would provide an excellent location for such a project. Geophysical survey can in most instances identify former evidence of ridge and furrow cultivation even where it has been ploughed or landscaped away, for instance at Throckley Middle School (Geoquest Associates 2002).

Excavation can recover similar evidence and analysis of botanical material retrieved by environmental sampling, such as that undertaken at St. Giles by Brompton Bridge in North Yorkshire (Huntley 1991; Huntley and Stallibrass 1995, 65), may be used to provide vital information on the crops and natural vegetation of the former farmland at various points throughout history. The value of environmental analysis of post medieval deposits has often been ignored in the past, but is particularly important as contemporary documentation could be tied in with archaeological evidence (Huntley and Stallibrass 1995, 76). For example palaeobotanical analysis of post medieval samples can prove that the improved breeding programmes of plants and animals detailed in documentary evidence took place (Huntley and Stallibrass 1995, 83).

3.5 Enclosure

The agricultural improvements of the late seventeenth, eighteenth and nineteenth centuries could only be undertaken in conjunction with enclosure, either by mutual agreement between landowners or by Parliamentary Act (Wild 2004, 28; Reed 1990, 242). Enclosure created additional arable land (Wrathmell 1975, 192) needed to supply the growing towns such as Newcastle and crop rotations, improved drainage and planned farms could only really prosper within the enclosed landscape (Wild 2004, 28).

The difficulty in finding evidence for enclosure by agreement is often the lack of documents or maps (Aston 1985, 131). The main documentary evidence which reveals the extent of such enclosure is the Chancery Decrees (Yelling 1977, 17). There are several such documents relating to lands within Newburn manor held in the Public Record Office dating from 1532 to 1655 (PRO C 1/749/37; C 1/880/15; C 10/25/12; C 10/30/140; C 10/33/112; C 10/57/174; C 10/82/67).

We know that in 1619 at least part of the common between Newburn and Walbottle was enclosed because a rental of 1622 lists the new tenants of the new allotments allocated in 1619 (SH A/ii/11a; Dodds 1930, 148). These enclosed lands can be seen on the 1710 plan of the moor (AC O/xvii/2; fig. 277) but not on the 1620 map (AC O/xvii/1; fig. 260), where the landscape retains the characteristics of a medieval system. Thompson's plan of the lordship of Newburn in 1767 (NRO Sant/Beq/9/1/24; fig. 265) shows that by then the whole common had been entirely enclosed. Fell House had been built in the centre of the former common and was presumably the farm from which much of the enclosure of common was effected (The Archaeological Practice 1996b, 12, 14).

It has been suggested that the fieldname 'park' could be interpreted as small banked and ditched enclosures from open fields (Beresford 1957, 192) or of woodland (Hoskins 1955, 143). At Butterlaw in 1620 (AC O/xvii/1; fig. 198), there were Park North, East and West Fields.

Leases dated 1765 to 1767 tell us that the demesne lands in Newburn Hall had been divided and allocated to new tenants (Knowles 1915, 199).

The open fields and commons of Throckley village were enclosed by 1769 (NRO 536/1-2). Two plans appear to show the pre-1769 unenclosed landscape (NRO 536/1) and then the results of the subsequent enclosure (NRO 536/2). The enclosed landscape is also shown on a map of 1781 (NRO 3410/Wat/23a/21).

Possibly 70% of the study area had been enclosed by 1769, which ties in with the scenario further afield. For instance, Emery (1976, 255), suggests that over 70% of land in the north-east was enclosed by 1600. Cantor (1987, 45) is more cautious stating that by the early 1700s Northumberland was 30-75% enclosed and Butlin quantifies this by stating that the principal to enclosure had been agreed in at least fifty Northumbrian townships between 1600 and 1758 and actual enclosure of common arable, meadow and pasture had been undertaken in the coastal lowlands by the mid 1700s (Butlin 1979, 75) and that there were 54 private enclosure acts in Northumberland in the eighteenth and nineteenth centuries (Butlin 1973, 99).

3.6 Parliamentary Enclosure

Only seven (Newton 1972, 126) or nine (Yelling 1977, 19) of the total number of enclosure acts in England (over 2500) between 1761 and 1844 relate to

Northumberland, because private agreements in the seventeenth and eighteenth centuries had already enclosed much of the open fields (CS and CS Orwin 1967, 'The Open Fields', 66 quoted in Butlin, 1973, 93, 97).

When landowners of a village could not reach a unanimous agreement they petitioned parliament for an act which allowed them to enclose their fields and waste. As part of the process the land was surveyed and then allocated by independent commissioners (Turner 1984, 11). The enclosure act effectively annulled leases on land and property and so tenants had to re-negotiate terms (Williamson and Bellamy 1987, 105). New roads, footpaths, bridle-paths and tracks were laid out (Turner 1984, 11). As a rule the commissioners ignored earlier patterns of field boundaries and roads and created a brand new landscape (Aston 1985, 131).

With much of the land having been enclosed by agreement, the only part of Newburn manor which remained to be enclosed by Parliamentary Bill was Throckley Fell, which comprised of 600 acres of common moor (Wrathmell 1975, 208). This was typical of the situation in Northumberland, where by and large only the intercommoned wastes remained to be enclosed by Act of Parliament (Wrathmell 1975, 200-202; Hoskins 1955, 179; Wild 2004, 22, 28).

The Act, passed on 11 April 1816 divided the Fell amongst the individuals who previously held land and rights of common in the parish. The Commissioners and Governors of the Royal Hospital in Kent (Greenwich) as lords of Throckley had previously been entitled to the soil, mines, minerals, quarries and royalties within the common moor. Both the hospital commissioners and the Duke of Northumberland had possessed various messuage lands and tenements within Newburn parish. Sir Matthew White Ridley had possessed messuages adjoining the parish and he and his tenants had been entitled to rights of common on Throckley Fell. The vicar of Newburn

parish, Rev. James Edmondson had been entitled to glebe lands within Newburn township and right of common. The act goes on to say that the common moor in its present state was of little value, but considerable parts were capable of cultivation and improvement (NRO ZRI 25/29; NRO 2049/14; NRO QRD 8, 9; Dodds 1930, 163; House of Lords HL/PO/PB/1/1816/56G3n50; NRO (40) ZRI 25/29).

Between the passing of the Act and the allotment of land, no turfs on the Fell were to be cut. The commissioners would determine to whom the separate parts of the roads belonged and which sections should be repaired by each township. The commissioners would agree the freestone and slate quarries on the Fell for the use of Greenwich Hospital and would allot one sixteenth in value of the common to the lords of the manor. The remainder would be allotted to those who previously had rights of common on the Fell (NRO ZGI 25/29).

The commissioner's allocation of the land was set out in the award with an accompanying schedule and a plan. One copy was deposited with the Clerk of the Peace. The award gave the acreage and dimensions of the new allotments and also the names of the owners and tenants. It showed public rights of way, public utilities such as wells and quarries. Public Rights Of Way often followed ancient routes but new roads were also created across the newly enclosed open fields, commons and wastes (NRO Notes on enclosure awards; Hoskins 1955, 186; Williamson and Bellamy 1987, 105).

The enclosure award for Throckley Fell made under the 1816 act was actually not drawn up until 1830. It lists the public carriage roads as Stamfordham Road, Ponteland Road, Dewley Road, Heddon Road, Drove Road and Black Row Road. The responsibility for these roads was divided upon amongst the townships of Throckley, Newburn, East Heddon and High Callerton. There were a number of public foot roads

leading from ancient stiles. Private carriage roads led from Heddon Road to Birks Farm of Sir M.W. Ridley and from Drove Road for his use. Both had carriage gates. Allotments included five for Greenwich Hospital, five for the Duke of Northumberland, one for Sir Matthew White Ridley, one for James Edmondson, vicar of Newburn, three for William Linskill of Tynemouth Lodge, and two for Thomas Bonner of High Callerton. All allotments were to be enclosed within twelve months with earthen mounds planted with hedges, with fences or with stone walls (PRO MP1/237; NRO QRD 9).

The 'encampment' shown within Sir Matthew White Ridley's allocated land (fig. 71) was presumably used by one of the numerous civil defence forces formed and commanded by the family during the wars against France 1793-1815. One such group was the Loyal Association of Newcastle Voluntary Infantry formed in 1798 and disbanded in 1813 (www.newcastle-arts-centre.co.uk/history; Cookson 1989).

Fields created from Ridley's allotment of Throckley Fell are detailed in the Heddon Birks Farm field book of March 1889 (NRO ZRI 49/12). Most of his 173 acres were used for arable, 8 acres were heather, 15 'old grass', plus 10 acres of 'foxcover' (see section 3.10). The allotment of lands was not necessarily permanent as William Linskill's lands were immediately sold to James Chicken (NRO QRD 9) and the vicar of Newburn in 1894, Rev. C.E. Blackett Ord exchanged lands under the Enclosure Act with the Duke of Northumberland (PRO MAF 11/20).

The first General Enclosure Act in 1801 had made enclosure simpler and less expensive (Wild 2004, 27; Beresford 1957, 81-2; Yelling 1977, 8). There were further acts in 1824, 1836, 1840 and 1845 (Beresford 1957, 81-2, 230). After the Act of 1836 a separate act of Parliament was not required for each enclosure (Williamson 2002, 9; Williamson and Bellamy 1987, 105) so long as two thirds of the interested parties gave

their consent (Yelling 1977, 9). By 1845 there was little potentially productive land left to enclose (Wild 2004, 27), certainly none in the study area.

3.7 Discussion

The impact of enclosure on the landscape of the study area is clear to see. One only needs to compare the 1620 plan of the manor (AC O/xvii/1; fig. 246), which shows Throckley village surrounded by large open fields, with the map of 1736 (NRO Sant/Beq/9/1/1/34; fig. 248) where the land has been divided into irregular fields with curving boundaries. Enclosure by agreement did not create the geometric landscapes enclosed by act of Parliament. Fields and hedges were not always straight and some of them, like those in Throckley and Walbottle are curved or have kinks and dog-legs because the new hedges followed the former strips (Williamson and Bellamy 1987, 103; Cantor 1987, 31; Williamson 2002, 7). By 1805, (NRO ZAN Bell 69/10; fig. 250) however, Throckley was characterised by straight-sided square or rectilinear land parcels.

The changes in Whorlton are equally dramatic and follow the same general pattern, from the open common of 1620 (AC O/xvii/1; fig. 276) to limited enclosure into land parcels of varying shapes and sizes by 1710 (AC O/xvii/2; fig. 277). By Thompson's map of 1767 (NRO Sant/Beq/9/1/1/24; fig. 279) there is a patchwork of square fields, which has removed the moor almost completely. The arrangement of fields is further subdivided on the tithe map of 1847 (NRO DT 509 M; fig. 281).

Dewley, whose land was demesne pasture in 1620 (AC O/xvii/1; fig. 209) was partly transformed into separate fields by 1767 (NRO ZAN Bell 45/2; fig. 212). The

boundaries of these eighteenth century enclosed fields, sinuous in shape, contrast with additional new straight boundaries added by 1848 (NRO DT 342 M; fig. 214).

Walbottle in 1767 (fig. 265) demonstrated a contrast between the sinuous field boundaries south of Fell House, and the straight boundaries to the north of it. By 1848, the township of Walbottle is a formal arrangement of regular fields and straight roads (NRO DT 468 M; fig. 268).

The Throckley Fell enclosure act was passed in 1815, stating that the Throckley estate belonged principally to the commissioners and governors of Greenwich Hospital, but there were other freeholds partly in ridges and spread over the whole. These can be seen on the plan of 1736 (NRO Sant/Beq/9/1/1/34; fig. 248). In 1777 the hospital committee purchased the freeholds in the township (AC Bell MSS. No. 333). The award under the Parliamentary Act was made in 1830. The area enclosed was between 500 and 600 acres (Bell MSS. No. 63 in Dodds 1930, 163).



Fig. 70 Parliamentary enclosed fields on Throckley Fell, regular in shape and with typically straight hedged boundaries (copyright author).

Across the study area, enclosure created a landscape with straight roads, solitary farmsteads within the new hedged fields and very little woodland except neat little fox covers (Wild 2004, 33; Rowley 1982, 25).

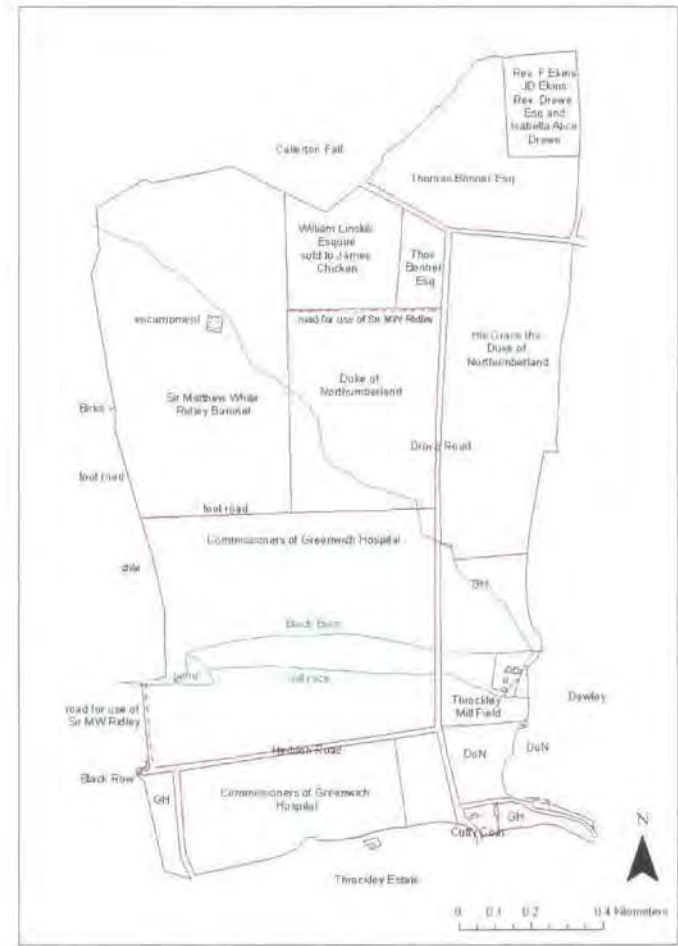
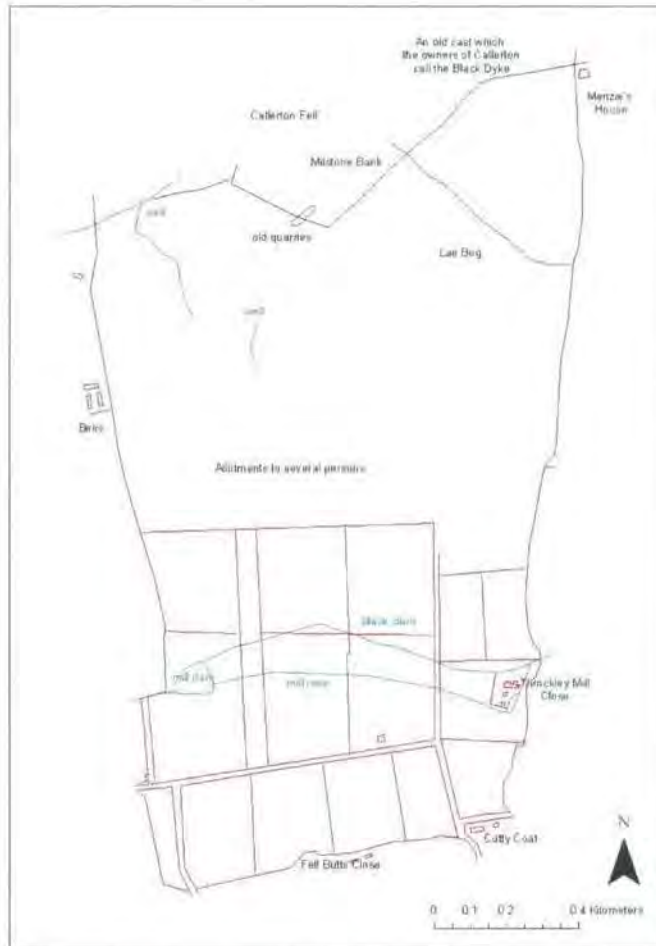


Fig. 71 Throckley Fell before and after Parliamentary Enclosure. The plan on the left is based on A Plan of Throckley Manor dated c. 1805 (NRO 691/1/19 and NCL L942.82 W151N). Here the fields within Throckley Township have been enclosed (see section 2.5) and a complex of straight roads installed, but the Fell itself remains open. Within the Fell there are two wells, an old quarry, presumably as the name Milestone Bank suggests, this was used for making millstones, and an old coal dyke. There is a footpath across the north-east corner of the Fell. The plan on the right shows the Fell following the implementation of the Parliamentary Act of 1816 (based on NRO ZG1 xxxv/4 by William Grace W. Bates, 1830). This divided the Fell into allotments shared amongst those who had previously had rights of common. The road network was extended and some private roads were laid out. A water course has appeared to water the new fields, which feeds from the Dewley Burn. The Burn and mill race are straightened and the mill pond has changed shape. The 'encampment' as discussed in the main text was probably used by civil defence forces. The plan is a little misleading as it omits the field divisions shown on the plan of c. 1805 which are still shown on Ordnance Survey First Edition of 1858.

3.8 Field Boundaries

Field boundaries can be of considerable age. Boundaries at Wharram Percy for instance were sectioned and found to be prehistoric and Roman (Aston 1985, 68-69). There is however no evidence for surviving prehistoric boundaries in the study area, and no co-axial field systems (Williamson; Barrett; Muir) have been noted here. There is evidence for prehistoric activity in this region, in the form of the flint scatters around Dewley Hill, other find spots and two late prehistoric or Romano British enclosures (HER 1317, 1318). Opencast mining around Dewley will have destroyed any possible field systems associated with the mound. An aerial photograph taken in 1960 identified cropmarks of a probable 'linear system' consisting of a possible trackway and parts of enclosures (HER 194; St. Joseph, 1960, Cambridge University ACJ62). Fragmentary subsurface evidence of prehistoric field systems may also survive in the vicinity of the two enclosed settlements and may be recoverable by geophysical survey and excavation. Evidence of pre-Roman agricultural activity has been recorded in archaeological excavations on Hexham Road in Throckley (Frain 2003). It can be shown that surviving field boundaries respect the line of Hadrian's Wall, although they cross the line of the Vallum and northern ditch, suggesting that they must be post-Roman in date.

It has already been suggested that the shape of field boundaries is often indicative of their age. Medieval boundaries are often curving or sinuous (Rackham 1986, 179; Aston and Rowley 1974, 159) providing evidence of medieval ploughing, and thus probably indicating the existence of former open fields. The reversed 'S' shape of the boundaries of elongated fields, such as those shown on the 1620 map of Throckley (fig. 246), was probably created by medieval ploughing. The boundaries of fields in Walbottle in 1620 (fig. 260) may preserve the outline of furlongs (Baker and Butlin 1973, 32; Cantor 1987, 47).

What form would these field boundaries have taken? It is a myth that medieval land was undivided as during this period 'dead hedges' or temporary fencing, made from stakes interwoven with 'ethers' (long flexible rods), were often used as property divisions and kept the stock off the corn (Rackham 1986, 187; Manning 1988, 26). Medieval arable fields could also have boundaries of banks and ditches (Reed 1990, 126).

Boundaries of lands were also delimited by furrows or by marker stones (Butlin 1973, 132; Aston 1985, 43). Mayson's survey of 1613 (AC A/iv/2, appendix one) shows that the manor was in part delineated by boundary stones and a cross. A parcel of land at the north-western corner of Walbottle moor in 1620 (AC O/xvii/1; fig. 260) was delimited by a single marker stone and a 'rondell hill of stones'. The stones are no longer shown on the tithe map of 1848 (NRO DT 468 M). The rectangular allotment of glebe land at Knop Law shown on the same map (see section 2.5) is marked by boundary stones on the first edition Ordnance Survey (fig. 270).

As with much of lowland Northumberland, there are no dry-stone walls in the study area. Walls are typical of the uplands (Rowland 1973, 83). Instead hedges or 'quicks', mostly hawthorn but sometimes whitethorn, were planted on the edge of a ditch and bank to demarcate the boundaries of the new fields (Wrathmell 1975, 211; Bailey and Culley 1797, 56; Wild 2004, 24). The word Hawthorn apparently comes from the Old English 'haga' which means a hedge or an enclosure (Hoskins 1955, 207; Reed 1990, 124). The planting of a living hedge was obviously a more permanent form of land division than a short-lived palisade (Manning 1988, 26).



Fig. 72 Straight hawthorn-hedged field boundary adjacent to Walbottle Moors Waggonway. The map regression exercise (fig. 275) has shown that this boundary dates to between 1620 and 1767, the period when Walbottle Common was enclosed by agreement (copyright author).

Newburn would have had at least a few hedges by the seventeenth century (Rackham 1986, 188) as the 1620 plan of the manor shows trees along the edge of the demesne fields in Newburn Hall (AC O/xvii/1). The former manor would have been almost entirely hedged by the eighteenth century. 200,000 miles of hedge was planted in England between 1750 and 1850 (Rackham 1986, 190). There is a list of hedges dated 23rd March 1758, which enclosed the Throckley fields (NRO 404 214/M14). The descriptions can be linked to the old maps (fig. 248) – ‘from [the turnpike] down the east side of the east field to the north east corner of hungry hole’ and ‘west side of Maddy’s Pasture and west end of Quarry Broom to Bogg Corner’.

As discussed in the section above, later boundaries tend to have straight lines (Rackham 1986, 179; Williamson and Bellamy 1987, 105) because they were carefully surveyed. Such boundaries can provide useful information on agricultural progress and methods of enclosure (Baker and Butlin 1973, 33).

The scientific study of hedges was until relatively recently an active field of research (Rackham 1986, 191; Hooper et al. 1979 in Cousins 2004, 77). It was suggested that a post-1800 hedge usually comprises of its original row of hawthorns, whilst an ancient hedge often has giant coppice stools or pollard trees (Rackham 1986, 203). Old hedges were said to be multi-species, a combination of hawthorn, with ash, oak, briar or blackthorn (Rackham 1986, 203). This is because ancient hedgerows had time to be colonised by additional species and because they were originally planted with a combination of fruit or nut trees such as crab and hazel and species which provided fuel (Williamson 2002, 12). Whilst it is still feasible that some old hedges could potentially be found particularly on parish boundaries or around the edges of former open fields (Williamson and Bellamy 1987, 94), the practice of dating hedges by the number of tree species is no longer an advocated theory (Cousins 2004).

The boundaries of fields are often one of the least adequately recorded features (Vyner 1990, 10) certainly there has been little study of those in north-east England (Cousins 2004, 77). Archaeological fieldwork would be an appropriate and more reliable technique to ascertain the age of a boundary and to understand the natural landscape in which it was located. Tolan-Smith's research on the landscape of Tynedale (1997) discusses the use of geoarchaeology and palaeoecology in recovering evidence of land-use changes such as woodland clearance and sedentary agriculture and to determine the chronology and impact of agricultural activities (Passmore and Macklin 1997, 11-27). Archaeological excavation of a trench across a field boundary would enable the form and method of construction of the boundary to be established. Environmental samples could be taken for pollen analysis and where organic material survives, radiocarbon dating could be attempted of the fill of the boundary ditch. Aston (1985, 39, 43) says that detailed fieldwork around the boundary is rarely wasted.

3.9 Parish and Township Boundaries

Aston, among others, remarks on the amazing persistence of boundaries throughout history (Aston 1985, 39). Many parish boundaries were first defined in charters of the late Anglo-Saxon period. The parish, township or tithing boundaries are thus often the same in the tenth century as in the nineteenth (Aston 1985, 39).

The alignment of what becomes the township boundaries in the study area dates back in part to at least 1620 (AC O/xvii/1; figs. 208; 217) but may be earlier. Beresford (1957, 26) suggested that parish and township boundaries are often older than any map. A system of land organisation based around agricultural territories could well have been in operation in Roman or pre-Roman times (The Archaeological Practice 2004, 7). They could represent pre-Norman estate divisions. There were processions along parish boundaries for instance before Ascension Day from c.750 (Beresford 1957, 26). In the lowlands townships are first documented in the medieval period (The Archaeological Practice 2004, 11-12) and the boundary was often later adopted as the boundary of a civil or churchless parish. Old maps show boundaries before parochial reorganisation and so the boundaries may date back to the Middle Ages and beyond (Aston and Rowley 1974, 68).

The western township boundary of Walbottle (fig. 275) follows the course of the New Burn as far north as Dewley and then is partially fossilised in the field boundaries as it leads north-east to what is now Stamfordham Road. The northern boundary of Butterlaw (fig. 208) follows the Butterlaw Burn. Mayson's survey of 1613 (AC A/iv/2; appendix two) describes the boundaries of the manor as including 'Dewley Dike Nooke' on the Ouse Burn (fig. 210). Boundaries of parishes or townships where possible did follow features like streams, hedges or roads (Rackham 1986, 19) and it is likely that

those boundaries which followed the course of natural features could be the most ancient (Vyner 1990, 11; The Archaeological Practice 2004, 11-12).

Aston (1985, 42) advises that special arrangements were frequently made to incorporate a mill and its water courses within a land unit and we find at Throckley that the Dewley Burn and Throckley Mill form the northern extent of the Throckley lands until enclosure takes place.

Many of the township boundaries were creations of enclosure. For instance the eastern boundary of Throckley is of pre-1736 date (NRO Sant/Beq/9/1/1/34; fig. 259). The northern boundary of Throckley was formed by 1769, as part of Throckley Fell was enclosed (NRO Sant/Beq/9/1/1/34-37; NRO 536/1-2). Enclosure had created the new eastern township boundary of Walbottle by 1767 (NRO ZAN Bell 45/2) and the southern boundary of Butterlaw between 1767 and 1848 (NRO ZAN Bell 45/2; NRO DT 80 M).

Parish and township boundaries were not necessarily defined by huge banks and ditches. In the study area they are unimpressive and no different to field boundaries (Aston 1985, 43). Archaeological techniques could be applied to these boundaries (Rowland 1973, 83; Beresford, 1957, 27).



Fig. 73 The sinuous western township boundary of Throckley, shown on the 1620 map (AC O/xvii/1) but potentially much earlier in date, is marked by a swathe of trees (copyright author).

3.10 Woodland

Today Newburn, like the rest of southern Northumberland, is a landscape of few trees, or at least native trees. This was not always the case of course. In the medieval period southern Northumberland was extensively wooded (Wrathmell 1975, 138). Woodland was an essential part of the landscape as it would have been the source for the villagers of supplementary food such as berries, nuts and mushrooms. Their pigs could be kept there and timber could be collected for fuel, fences, tool handles, boats, furniture, fish traps and building repairs (Wild 2004, 10; Manning 1988, 20; Reed 1990, 121).

The reader does not have to look too far in the documentary sources to find evidence of this woodland. An agreement in 1250 mentions the '*woode of Hallelwell*' (SH J/vii/4a) and in 1291 eighty acres of wood were held in common (SS vol. cxvii, 304, 314; Dodds 1930, 160). In 1293 Robert of Throckley declared that tenants were accustomed to taking timber when he was found cutting oaks in the wood of Helley without the permission of the forester (SS vol. cxvii, 276; Dodds 1930, 160). A document held by the Public Record Office (E 134/12Geo2/East15) relates to the woodreve or woodward of the Radcliffe's manor of Throckley. The name Hallowell could potentially relate to a holy well perhaps connected with the lepers of Newcastle who held land in Throckley in 1379 (SS vol. xlvi, ii, 55-6).

This same Hallowell Wood is clearly marked on the plan of the manor of Newburn of 1620 (AC O/xvii/1; fig. 246) to the west of Throckley village occupying 40 acres with a further 32 acres listed as 'Hallowell Wood ascending and descending'. Could it be that the name Throckley derived from the act of woodland clearance, ley or leah meaning a clearing (Smailes 1960, 97; Skipp 1970, 28; Rackham 1986, 82)? The same map shows 'Back of Wood' and 'Woode Close' in Newburn Hall (fig. 232). These woods

would have been planted with native trees such as ash, maple, hazel, lime, elm, birch, alder, willow, oak and hawthorn (Rackham 1986, 64). Woods had names because they were valuable property, and it was probably likely that in the medieval period, the boundaries of Hallowell Wood were defined by a great bank and ditch with a hedge or fence to prevent encroachment, and to keep out livestock which would eat young shoots (Rackham 1986, 86). Today Hallowell Wood is gone. It is not shown on any plans after 1620. The 1736 map of Throckley (NRO Sant/Beq/9/1/1/34; fig. 248) shows only a small area called 'Bogg Wood' to the south of West Field. 'Hagg' and 'bank' are old words for wood (Richardson 1974, 15) and the same map shows a West and East Bank, possibly indicating woodland.

There are several possible reasons why Hallowell Wood has disappeared. Woodland clearance would have begun at an early stage, probably from Anglo-Saxon times (Hoskins 1955, 173) to make way for settlements. There is however nothing to suggest that Throckley village ever expanded into the area once occupied by woodland. Destruction of forests across Northumberland in the sixteenth century intensified due to shifting cultivation, large-scale grazing and war (Newton 1972, 102). Some woodland may have been cleared to create more arable or pasture land (Hoskins 1955, 138).

More likely after 1620 the woodland was gradually cleared for industry (Smailes 1960, 66-67), probably mining. Indeed Mayson's survey of Newburn Manor in 1613 records that 'there are no woods or underwoods of any value nowe left within the manor for that they have been greatly wasted and destroyed by James Cole and others for making of steythes and timbering of cole pitts' (AC A/iv/2). Coal mining had an immense appetite for wood for waggonways, pit props, staiths, wagons, keels and so on. The demands for wood by collieries caused woodland to be cut after thirty years (Stamp 1946, 476-478). Timber from Hallowell Wood was no doubt also used for houses, boats (the government had attempted to stimulate tree planting as early as the mid sixteenth

century because of concern of scarcity of timber for shipbuilding, Williamson and Bellamy 1987, 192), for farming implements, household tools and for domestic fuel (Hoskins 1955, 55). There was a shortfall of timber to supply Britain with fuel in the sixteenth and seventeenth centuries (Nef 1966, 1, 190; Hatcher 1993, 60). Timber was imported from the Baltic by Newcastle merchants (Zins 1972, 74-5; Graves, forthcoming) and coal was demanded as an alternative fuel. As with other parts of the north, by the 1700s deforestation was widespread (Smailes 1960, 66-67).



Fig. 74 Horsley's map of 1753 (NRO ZAN M16/B21) shows Whorlton Moor as sparsely wooded.



*Fig. 75 Plantation at Westerhope Golf Course (copyright author).
The only woods at Whorlton today are these trees on the golf course and St. John's Wood, a community woodland adjacent to St. John's housing estate, both planted in the twentieth century.*

In the first draft report for the newly formed Board of Agriculture, John Bailey and George Culley (1797) explained that woodland is restricted to the banks of rivers. By Fryer's map of 1820 deforestation meant that there is only a comparatively narrow sinuous strip of woodland alongside Walbottle and Throckley Dene. By 1847 the township of Throckley had a total of 35 acres of woodland (NRO DT 448 M), presumably restricted to the dene and to new plantations. The Ordnance Survey mapping shows the dene as heavily wooded and today this remains the only area of natural woodland. The survival of woodland along river and stream valleys is typical of the north (Smailes 1960, 191).



Fig. 76 Armstrong's map of 1789 shows extensive woodland on the east bank of the New Burn.



Fig. 77 Woodland today is mainly restricted to the dene of the New Burn (copyright City Repro N5393, n.d.) but is far less extensive than that shown on Armstrong's map above.



Fig. 78 Throckley and Walbottle Dene – woodland in the valley follows the winding course of the New Burn as far north as the A69 (copyright R&I 410291049, 7th September 1991).

Walbottle and Throckley Dene (figs. 77-79) is listed in the Inventory of Ancient Woodland (Cooke 1987), which is a catalogue of woodland sites which have been in existence since at least 1600. In the post medieval period landowners were encouraged to plant trees (Hoskins 1955, 173). Williamson and Bellamy (1987, 192) call this the 'great replanting' when millions of trees were planted as a patriotic duty. The Duke of Northumberland apparently carried out a programme of tree planting in 1766 in Walbottle Dene. In the nineteenth century fashionable trees like sycamore, beech, larch, rhododendron and horse-chestnut were planted. The influence of the Duke's artificial planting is evident in the form of rhododendrons and bluebells amongst the natural woodland (Walker and Warner 1953, 273). The dene was eventually presented to Newburn UDC in 1932 (Rippeth 1993, 57).



Fig. 79 Throckley Dene (copyright author)

The Dene is listed on the Inventory of Ancient Woodland because it is a woodland site which has been in existence since at least 1600. Throckley and Walbottle Dene is now a local nature reserve (UDP policy NC1.4) and Site of Nature Conservation Importance (UDP policy NC1.2).

Smaller plantations of trees have self-planted on disused shaft mounds and quarries (fig. 80). This phenomenon can be seen on Ordnance Survey maps of Dewley, Throckley and Walbottle and many of these survive.



Fig. 80 The small nineteenth century sandstone quarry in Walbottle village is now overgrown by shrubs and trees (copyright author).

Much of the native tree cover in the study area is protected by tree preservation orders (TPO). However these trees have been renewed, some as recently as 2004. There is one truly old tree, a large sycamore, not a native species, in the garden of a house built on the site of Chapel House Farm. Presumably this was planted by the farmer and since Chapel House or Hill dates back to the sixteenth century (see chapter eight), the tree potentially could be very old indeed (T. Batchelor, Landscape Officer, Newcastle City Council, pers. comm.).

The other areas of trees in the study area are very much in contrast to the native woodland on the slopes of the burn. These are plantations, deliberately planted usually with fast-growing exotic species like larch and Norway spruce conifers (Rackham 1986, 64; Williamson and Bellamy 1987, 193, 196). Conifers provided better shelter as they do not shed leaves (Williamson and Bellamy 1987, 200-201; Newton 1972, 119; Bettey 1993, 101). These trees protected the newly enclosed fields from the wind (Newton 1972, 119; Smailes 1960, 67) and 'enlivened' the landscape of hedged fields (Wild 2004, 33).



Fig. 81 Foxcover Plantation, planted to protect the newly enclosed fields on the former Throckley common from the wind, and as the name suggests, to provide shelter for game (copyright author).

These post medieval plantations, like the enclosed fields, are of geometric shape (Rackham 1986, 98). There is a rectangular plantation to the east of Black Row to the north of Throckley on a plan of 1805 (NRO 691/1/19) labelled 'woodland reserved', another plantation immediately south of Black Row and a third example at the south-eastern corner of Throckley township alongside the Reigh Burn. On the first edition Ordnance Survey these are named Long Plantation, Blackrow Plantation and Engine Plantation respectively. Within the enclosed fields formed from Throckley Common in 1830 there is a square plantation called 'Fox Cover' (fig. 81). This belt of trees was undoubtedly created in which to rear and shelter game such as pheasants, hares, partridges and rabbits or where foxes could be encouraged to live and breed (Wild 2004, 33; Newton 1972, 127-128). Organised game-keeping, shooting and fox hunting developed as popular pastimes for the elite from the eighteenth century (Rackham 1986, 93; Bettey 1993, 101).

Hoskins (1955, 55) said that the clearance of woodland was the 'greatest form of change to the natural landscape'. This is certainly true of the study area where between 1620 and 1805 the thickly wooded landscape around Throckley was replaced by hedged fields and today the only truly natural woodland is concentrated along the

valley of the burns. The Ancient Woodland Inventory indicates that the woodland in the dene was in origin of some age. A multi-disciplinary approach, such as that discussed by Tolan-Smith (1997) for Horsley Wood, using a combination of documents, fieldwork, pollen analysis and ecology, might provide useful information. Future excavations in Throckley may yield pollen evidence, which like that analysed from Rusland Moss (Dickinson 1975) might indicate forest clearance (Huntley and Stallibrass 1995, 77).

3.11 Commons and waste

The 'manorial waste' was situated beyond the cultivated land (Manning 1988, 18, 20). Since 1236 common land had been owned by the lord of the manor (Williamson and Bellamy 1987, 78) and was not communal in the same sense as the open fields and pasture (Wild 2004, 10). Dewley was described in 1367 as a 'waste place given over to grazing' (SS vol. cxvii, 273). The manor of Newburn in 1620 (AC O/xvii/1; fig. 260) contained a huge area (1102 acres) labelled 'Newburne Walbotle & Butterlaw Comon', designated as commons and waste by being coloured yellow on the plan. The 1710 plan of 'Dewley, Butterley and Whorleton Moor' (AC O/xvii/2) also mentions 'Throckley and Newburn Hall Moores' to the north, and the grounds and commons of Black Callerton to the east. A survey of Newburn of the same year lists Whorlton Moor as occupying 626 acres (AC A/vii/9).

Documentary sources show that Throckley Fell was being used as grazing land even by the eighteenth century because in 1760 William Brown of Throckley Colliery challenged William Aynsley of Dewley Hill over the right of the latter to pasture on the common (Hodgson MSS, Newburn Guard Book in Dodds 1930, 163). A record exists (NRO 404 214/M14) of late eighteenth or early nineteenth century trespasses and encroachments on the Fell, the running of cattle, sheep and horses without entitlement,

and the taking of turf and stones. The receiver's book (NRO 404 214/M14) for 6 June 1781, lists the owners of impounded animals (cattle, horses and sheep) on Throckley Fell. The entry of August 29 1796 is a memorandum of sundry goods taken on the Fell including Galloways, cows and sheep. Payments for turf from the Fell are detailed in 1811-1815. For instance, Hugh Taylor took turf to Newburn, Henry Boag took turf for his cottage at Walbottle and William Cuthbert of Benwell took turf for his new terrace. Henry Graham made a payment for winning stones in the year 1814 for buildings at Callerton Estate, and payments were received from residents of Dewley for encroaching ground on Throckley Common.

Commons and wastes were either land that had gone out of cultivation as a result of deliberate devastation (Rowley 1983, 68) or due to depopulation caused by events such as the Black Death (Harris 2005, 197), or in the case of the study area unimproved common pasture (Butlin 1973, 137). The post medieval documents described above show that Throckley Fell and other common pasture land was used by the villagers as grazing for their animals, and provided a plentiful supply of turf, bark, reeds, rushes and bracken which would have been utilised for fuel and building repairs (Aston 1985, 114; Manning 1988, 20). Here they might have also kept beehives and caught rabbits (Wild 2004, 10). A plan of 1767 (NRO Sant/Beq/9/1/1/24) shows a field at Whorlton called 'Honey Tack', which was once part of Whorlton Moor. Honey was used to make mead and medicines and wax was used for church candles (Darby 1977, 277).

Documentary evidence shows that the local residents extracted building materials such as stone, sand, gravel and clay (Aston, 1985, 114). A quarry is shown on an 1805 plan of Throckley Fell (NCL L942.82 W151N; fig. 71) in an area called 'Milestone Bank'. Waste was an integral part of land organisation and could be up to sixty percent of a township (Butlin 1973, 137), in the case of the study area, the commons and waste

make up around 40% of the manor on the map of 1620 (AC O/xvii/1) and this plan omits Throckley. The history of the manorial common land is fascinating and would be worthy of independent study similar to that carried out for Prestwick Carr, the common land of Dinnington and Brenkley villages (Harbottle 1995) and NEEHI's project on settlement and waste in the Palatinate of Durham (Dunsford and Harris, 2003; Roberts, Dunsford and Harris 2005).

Chapter Four

Extractive Industries

4.1 Coal mining

4.1.1 Early coal pits

Documentary references to coal mining on Tyneside date back to the thirteenth century (Smailes 1960, 129; Armstrong 1973, 7). The earliest mention of 'sea-coal', shipped from Newcastle to London, is a 1236 charter (Galloway 1880, 170; Glasscock 1976, 171). In 1239 Henry III granted a charter to the townsmen of Newcastle to dig coal and stone in the Castle Field and The Forth (Fordyce 1860, 15; Galloway 1880, 184). As early as 1325 coals were being exported from the Tyne to France where the King of England had territories (Glasscock 1976, 171; Smailes 1960, 129). Monastic institutions worked most of the northern coal mines because they were located on their land. The priors of Tynemouth, Hexham and Finchale leased collieries from at least 1330 (Galloway 1969, 14; Dodds 1930, 152-153) and record coal within their land on the northern bank of the River Tyne (Galloway 1880, 174), including mines at Denton and Wylam (Blake 1967, 23) and in 1326 Elswick Colliery is mentioned in their charters (Galloway 1880, 178; Dodds 1930, 25). Mining thus played a small but important part in the economy of the medieval period (Glasscock 1976, 171):

Date	Evidence	Source
1331	Ralph de Nevill was licensed to work coal in the manor.	Cal. Pat. Rolls, 1330-1334, 261; Knowles 1915, 197
1333	When Henry de Percy gave Newburn to Ralph de Neville for life, he was allowed 'to make his profit of sea coals found therein'.	Cal. Pat. Rolls 1330-1334, 34, 1330-3, 390; Knowles 1915, 194; Gibson 1923; Dodds 1930, 28
1367	An <i>Inquisition Post Mortem</i> of Ralf de Neville lists amongst his assets in Newburn, a coal mine earning 40s a year.	Dodds 1930, 145; SS vol. cxvii, 273
1499/1500	Rental of John Cartington listed 'a subterranean coal mine, rent 106s 8d, in the lord's hand'.	SH A/ii/3a; Dodds 1930, 146

Table four: Documentary evidence demonstrates that coal was exploited in the study area in the medieval period. The medieval coal workings in the study area would have taken either of two forms. Seams close to the surface could be exploited by drifts dug into the valley sides of the New Burn and the coal dug out using hand picks and by driving wedges into cracks (Cantor 1987, 128). Alternatively 'bell pits' or 'day holes' were opened as shallow vertical shafts down to the seam and then widened out at base into a bell-shaped hollow to extract as much coal as possible before the shaft collapsed. The disused bell pit left a characteristic hollow around 6m across, in the centre of a spoil heap (Cantor 1987, 128; Rackham 1986, 370; Raistrick 1972, 21). Once one pit was abandoned a new one was commenced along the line of the seam.

No archaeological evidence for the medieval pits has thus far been found in the study area. Local examples of early coal workings (pre-1700) exist at Lands Wood, Whickham (HER 5113), Moorhouse Woods, Alnwick Moor and Newcastle Town Moor (Petts with Gerrard 2006, 79, 92-3). Other known sites are summarised by Hatcher (1993, 71).

After the Dissolution, coal workings passed to the King, who then leased them to individuals (Emery 1976, 283; Hill 1967, 68). The Newburn mines passed to the lord of the manor, the Earl of Northumberland and the mines at Throckley passed from the Crown to the Radcliffe family (Dodds 1930, 35). Whilst the larger more profitable coal-mines were often retained in the owner's hands, he could, if he wished, lease others out in order to bring in a rent, for instance between 1536 and 1554 the Grey family leased the coal pits of 'Bytterlaw' from the Earl (PRO E 321/40/25). By 1589 the mines of Newburn were leased to Henry Chapman (Mayor of Newcastle in 1602), Henry Anderson and Mr Mitford (SH Q/vi/1 in James 1955, xlv). In 1602 the partners also included Sir Nicholas Tempest and Thomas Liddell, prominent Newcastle coal magnates (SH P/ii/2q in James 1955).

4.1.2 Post medieval mining

By the late 1500s, many new pits were sunk to supply domestic and industrial markets as wood fuel declined. Under Elizabeth I, acts were passed to restrict the felling of wood for industry (Dodds 1930, 29; Emery 1976, 272). Ironically Mayson's survey of Newburn Manor in 1613 records that 'there are no woods or underwoods of any value nowe left within the manor for that they have been greatly wasted and destroyed by James Cole and others for making of steythes and timbering of cole pitts' (AC A/iv/2).

Date	Evidence	Source
1581	Mines at Butterlaw are entered as unoccupied due to exhaustion of surface deposits.	James 1955, xlv
early C17	Several mines were begun on the west side of Newcastle at Benwell, Elswick, Denton and Newburn.	Dodds 1930, 34
1608	The earl's officer George Whitehead procured a colliery viewer who reported that 'yf the mine [at Newburn] be rightly used.. he will make it worth 400 li' yearely, and he hopes more... woorth the 1000 li. By yeare yf all fall out right'.	SH Q/ii/52 in James 1955, xlv
1610	The ninth Earl took most of the mines into his own hands, to work and sell the coal himself.	SH Q/ii/52 in James 1955, xlv
1612	Butterlaw coal mines were leased to Francis Fitton for an annual rent of £3.	James 1955, xlv
1613	Other mines were leased to Hugh Bird, who had been in the Earl's service, and to James Cole of Newcastle, who had a partnership with Timothy Elkes another of the Earl's officials. 'Colemynes' former rent £13 6s 8d. 'The old pitts are worne out of use, and the new pitt of great value is in dispute between his lordship and the lessees of Hugh Bird'.	James 1955, xlvi; Chancery Proc. Series ii, 320/41 in Dodds 1930, 147; AC A/iv/2
1615	Some of the mines in Newburn were being worked by the Earl in partnership with Thomas Fotherley his Receiver-General and George Whitehead then Receiver of Tynemouth, with capital backing from a Mr Taylor of Tower Hill, London. The enterprise lost the Earl considerable finances. A 'Breife of the Accompte of Newborne Colliery' of 1617 shows a deficit of £621 6s 10d in that year alone. The enterprise was abandoned by 1619. The failure of the Earl's enterprise of 1615 was due to several factors: George Whitehead, manager, had no mining experience and his technicians abandoned their work for the Grand Lease of Newcastle. James Cole, following a quarrel with the Earl over his failure to pay rent, mixed bad coal with the output of the Earl's mines, discrediting the Earl's coal in London market. The Newcastle Hostmen who controlled the sale of coal from the River Tyne, had by 1618 closed all outlets, and so the Earl's coal accumulated unsold at his staiths. Attempts to bypass Newcastle failed and the Hostmen's fees wiped out the Earls profits. In 1619 George Whitehead negotiated a deal with Robert Anderson, Sheriff of Newcastle and Sir Nicholas Tempest, the King's Searcher in Newcastle, to vent the 'ould coles' which had accumulated in Newburn and a reduced fee for transport on the river. The Earl accepted and then abandoned the attempt to sell and produce his own coal but he did continue to work the mines.	SH C/x/2c in James 1955, xlviii; SH Q/ii/127 in James 1955, xlvi; SH Q/ii/116 in James 1955, xlvi; James 1955, xlvii

1619	A rental lists the coal mines in Newburn as being held by Sir Nicholas Tempest knight and Raphe Cole merchant, coal mines outside the demesne of Newburn held by Martin Halliman and Hugh Bird from Lady Day and records that John Clarke was to erect a 'staythe'.	SH A/ii/11a in Dodds 1930, 148
1620	The Newburn mines were leased to Anderson and again to Tempest. The mines previously held by Hugh Bird were already leased to James Cole.	James 1955, xlviii
1620	Plan shows several individual coal pits in Walbottle and Newburn and there is an annotation within Whorleton, Walbottle and Butterlaw Moore which says 'Here did the coales burn in the Earth many years together' indicating that coal mining was being undertaken at that time. Two of the pits in Newburn Hall appear to be flooded, with an associated 'water course from the coale pittes' running into the Tyne close to the staithe at Lemington. Field name evidence also suggests coal mining, such as Barston Pittes in Walbottle.	AC O/xvii/1; figs. 218, 232, 260
1622	Sir Ralph Tempest, knight and Raphe Cole of Newcastle, merchant hold the coal mines by indenture for 7 years, paying yearly for every pit £100. Martin Halliman and Hugh Bird held the coal mines outside the demesne of Newburn from 1611, paying yearly for every pit £100.	SH A/ii/11a in Dodds 1930, 148
1638-9	In a letter from Sir Jacob Astley to secretary Windebank, February 19 th 1638-9, he asks that a bridge is formed at Newburn ford for the Royalist troops using the boats and keels used for transporting coals. Furthermore he states that if necessary, the horses used in the coal mines in Newburn town could be used by the king's troops – if this means that the horses are actually being used in the mines this is a very early date and means sizeable drifts.	Cal. State Papers Dom. 1638-9, 483 in Knowles 1915, 198
1669	A rental for part of the Throckley estate of Sir Francis Radcliffe of 1669 lists the tenants as 'Geo. Lerwin Marihl, Cuth. Birtley Miln, heirs of Wm. Chicken and Jeremy Colhurst for every going pit'.	NRO ZCK 14/1
1685	'The tenants are the better enabled to pay their rents by reason of their carrying Coales from his Grace's severall Collieries.... The Tyde comes up from Newcastle to ye west end of ye towne and severall wherryemen Rows up and downe to Newcastle every Tyde'.	AC B/i/3 in Dodds 1930, 149
late C17	Small pits were begun at Newbiggin, Whorlton and Throckley.	Dodds 1930, 34

Table five: *Cartographic and documentary sources which demonstrate the expansion of coal extraction in the study area from the end of the sixteenth to the end of the seventeenth century.*

Seventeenth century pits were small and had coal raised by a manual windlass or jack-roll (Dodds 1930, 28; Galloway 1969, 17; Raistrick 1972, 21). An adit or watergate drained water from the coal workings (Galloway 1969, 17). Coal was used as fuel in most industries except furnaces (Patten 1979, 28; Cantor 1987, 126) and was widely used for domestic fuel (Baker 1976, 232, 235; Smailes 1960, 132-6). Coal was widely worked throughout England on a small scale during this period but Newcastle was the only place from which there was any substantial movement of coal, elsewhere coal was used locally (Cantor 1987, 126; Baker 1976, 232). 'Sea-coal' from Tyneside was exported to London, Ireland and elsewhere (Darby 1963, 510). There was also a large export trade in coal from the Tyne to France and Holland. In 1615 the coal fleet from the northern coalfields comprised of four hundred vessels (Galloway 1969, 33-34).

As the seventeenth century progressed, the shallow riverside coal pits were becoming exhausted (Wrathmell 1975, 223-225). In 1613 Mayson reported that the 'old pitts [of Newburn manor] are worne out of use' (AC A/iv/2 in Dodds 1930, 34, 147). Flooding caused problems at other pits (Armstrong 1973, 14; Cantor 1987, 129; Dodds 1930, 34). The estate accounts of the Earls of Northumberland 1562-1637 (James 1955, xlv) describe the decay of several workings during last two decades of the sixteenth and first decade of the seventeenth century. For instance, in 1581 the pits at Butterlaw are entered as unoccupied due to the exhaustion of surface deposits (James 1955 xlv). The solution was to dig deeper and at distance from the riverside and as will be discussed this was interlinked with the ability to transport coal and materials.

Deeper mines were sunk in Elswick and Benwell (Nef 1966, 1, 26) by the end of the 1600s, commonly to a depth of 120ft but occasionally up to 400ft. Deeper mines however required ventilation and better winding gear. Coal was raised by men in baskets or corves by means of a horse attached to a vertical 'gin'. This was later superseded by the whim gin (Dodds 1930, 30; Raistrick 1972, 22). Pumps were also

horse driven or powered by water wheels (Dodds 1930, 31). The drainage problem was not properly solved however until Thomas Savery invented the steam engine in 1698 and Thomas Newcomen improved it in 1708 (Poole and Raistrick 1949, 88 say 1710) for raising water out of the shaft (Dodds 1930, 34; Hill 1967, 205; Reed 1990, 225).

The following tables summarise the main documentary and cartographic evidence for eighteenth century mining in the study area:

Date	Evidence	Source
C18	A plan of the East Denton and Sugley Estate shows four coal pits north of Lemington staiths – Nightingale, Plumbtree, Bounders and Turnrail.	NRO Sant/Beq/9/1/1/19; fig. 82
1700	Rental lists a 'cole myn about 5 ffaddome of ffine stone of severall thicknesses ffarmed by one ffrench who takes of one Gibson'.	AC B/i/3 in Dodds 1930, 149
1712	A hazel bush still with nuts upon it was reputedly found when sinking a coal-pit at Lemington. The shrub was found 'fifteen fathoms deep in a moss-earth, fair and fresh to look upon till exposed to the air when they mouldered away'.	Wallis 1769, 112
1753	Newburn Estate, sinking and boring book, 1753.	NRO 3410/ZA/13/7
1765	Letter book of William Brown – letter to the Earl of Northumberland regarding the provisions of the will of William Newton and borings at Newburn and Walbottle, 7 February 1765.	NRO 3410/Brown/2/15
1765	Award by William Brown re entitlement of Edward Montague and William Archdeacon to the ownership of coal mines at East Denton and Lemington, and re the propriety of working pillars and walls at A Pit and best method of making a trial, 2 October 1765.	NRO 3410/Wat/4/12
1767	A plan of the Lordship of Newburn shows dykes within the coal seams, waggonways, coal pits, engines and test boreholes. Many of these coal pits are within the former Dewley demesne.	NRO Sant/Beq/9/1/1/24, 25
1769	Draft binding agreement with the Duke of Northumberland for work at Newburn and Walbottle Collieries, 9 November 1769.	NRO 3410/Wat/2/12/109
1770	Statement of accounts for Newburn Colliery 12 March 1770.	NRO 3410/Wat/2/10/10
1770	Account of borings in Newburn 5 May 1770.	NRO 3410/Wat/2/10/36
1770	Account of borings at Newburn 31 December 1770.	NRO 3410/Wat/2/10/74
1768-1770	Fortnightly accounts of work undertaken at Newburn Colliery on behalf of the Duke of Northumberland, including sinking and drifting, masons, carpenters and smith's work, charges for horses and waggonways and maintenance of fire engines.	NRO 3410/Wat/2/7/139
C18	The Blackett Wylam manuscripts detail the account of coals led and vended, incidental work at the colliery, repairs to the waggonway, work wrought at Newburn Farm and repairs to staith quay.	NRO ZBK/A/1/16

Table six: *Documentary and cartographic evidence for eighteenth century coal mining in Newburn and Newburn Hall.*

Date	Evidence	Source
1735	An abstract of a rental of the late Earl of Derwentwater's estate in 1735 lists William Brown as tenant of Throckley Colliery. He bought $\frac{3}{4}$ share of the colliery, staiths and waggonways from Henry Masterman and Elizabeth Harrison for £3000 in 1759.	NRO ZCK 14/2; TWAS 140/1
1765	James Waddle, Christopher Simpson and Thomas Featherston for work in Thistle Pit 7 December 1765. This may be in Throckley.	NRO 3410/Wat/2/13/6
1765	James Waddle and Co. for work at Thistle Pit 23 October 1765, Nicholas Chance, to build an engine house at Delight Pit 29 November 1765. These pits may be in Throckley.	NRO 3410/Wat/2/13/5
1766	James Waddle and Thomas Featherston, for work at Thistle and Trial Pits 17 March 1766.	NRO 3410/Wat/2/13/7
1766	James Waddle for work in Delight and Thistle Pits 1 August 1766.	NRO 3410/Wat/2/13/9
1766	Thomas Bowden to drive a drift from the Dayhole Pit 9 November 1766.	NRO 3410/Wat/2/13/10
1767	James Waddle for work at Thistle Pit and William Pit 4 February 1767.	NRO 3410/Wat/2/13/13
1767	Thomas Brown of Dewley Burn for work at Delight Pit 9 May 1767.	NRO 3410/Wat/2/13/19
1767	Thomas Reed, senior, for work at Catt Pit 9 May 1767.	NRO 3410/Wat/2/13/21
1767	Fragment of the diary of Richard Brown, William's son, also a colliery viewer, includes a report on 'Meadow Pitte' and Thistle Pit at Throckley dated 3 September.	TWAS DX 214/1
1768	George Dormont of Newburn to work the Edge Pit 8 February 1768.	NRO 3410/Wat/2/13/74
C18	Bell and Brown's colliery books.	NRO 725/C2/156; NRO 3410/Wat/2/7/57; NRO 3410/Brown/1/279
C18	Plan which shows coal pits, including Honey Pit, are recorded along with a wagonway leading south from Meadow Pit and three underground dykes.	NRO 536/1; Mabbitt 2001, 11; Northern Counties Archaeological Services 2001, 9
1768	Thomas Foster to sink the Bean Pit 24 November 1768.	NRO 3410/Wat/2/13/80
1769	Plan which shows Hill Pit, Meadow Pit, Honey Pit as a pumping shaft with a 'New Engine', all linked by a wagonway.	NRO 536/2; Mabbitt 2001, 11
1770	Account of borings at Throckley 24 July 1770.	NRO 3410/Wat/2/10/60
1773	Account of borings at Hill Pit, Throckley 1773.	NRO 3410/Wat/2/10/197
1774	Estimate of cost for the new winning at Throckley Colliery 10 December 1774.	NRO 3410/Wat/2/10/230; NRO 3410/Wat/2/10/235
1774	Report re previous workings at Throckley, including a winning by a water-driven engine from c.1759 23 May 1774.	NRO 3410/Wat/2/10/217
1774	Throckley Colliery, including plan marking pits, coal seams and dykes, taken from a plan.	NRO 3410/Bell/19/447
1774-5	Account of coal worked in Throckley 12 May 1774 to 12 May 1775.	NRO 3410/Wat/2/12/7

1776	Report regarding the barrier to be left between Throckley Colliery and Newburn 23 November 1776.	NRO 3410/Wat/2/10/281
Probably C18	Estimates of working costs for Throckley and Walbottle Colliery n.d.	NRO 3410/Wat/2/10/108; NRO 3410/Wat/2/12/82
Probably C18	Plan of workings in the Engine Seam, Throckley Colliery n.d.	NRO 3410/Wat/23a/22
1781	Plan which shows 'New Engine' and an unnamed shaft.	NRO Sant/Beq/9/1/1/37
C18	Plan of the workings in the Engine Seam belonging to Greenwich Hospital shows the extent of underground workings of Throckley Colliery. The Engine Seam or Low Main Seam was being worked by pillar-and-stall workings.	NRO Sant/Beq/9/1/1/35; Mabbitt 2001, 12
1785	A list of fifty-two pits at Throckley.	NRO 404 214/M14
1785	Estimate of working costs for Throckley Colliery 4 May 1785.	NRO 3410/Wat/2/11/30
1785	Notes regarding the various seams of coal in Heddon and Throckley Collieries 5 July 1785.	NRO 3410/Wat/2/11/63
1789	Queries regarding Throckley Colliery including the best methods of working and drawing the coal with estimate of working costs, by George Johnson and Thomas Barnes February 1789.	NRO 3410/Wat/2/11/137
C18	Plan which shows another complex of pits – Nymph Pitt, Rye Pit, Maria, Lark, Queen, Engine, Rose Pit, another Queen pit. A complex of waggonways link the Callerton Engine to Butterlaw, an Engine and Mr Brown's Engine.	NRO Sant/Beq/9/1/1/24

Table seven: Documentary and cartographic evidence for eighteenth century coal mining in Throckley. The pits named in these documents can be seen on fig. 88.

Date	Evidence	Source
C18	Valuations of waggonways at Walbottle Colliery.	NRO 3410/Wat/2/7/57
1710	Whorlton Moor Colliery is cast out. The colliery which lyeth in Newburn and Walbottle grounds was 20 fathoms deep.	AC O/xvii/2
1765	Letter book of William Brown which details the borings at Newburn and Walbottle	NRO 3410/Brown/2/15
1768	Elias Robson to work the Duke Pit 25 November 1768 - the location of the pit is not stated. This could be the Duke Pit in Walbottle.	NRO 3410/Wat/2/13/78
1769	Agreement with the Duke of Northumberland for work at Newburn and Walbottle Collieries.	NRO 3410/Wat/2/12/109
1770	Detailed fortnightly accounts for work undertaken at Walbottle Moor Colliery on behalf of the Duke of Northumberland, 21 March 1770 – 8 August 1770.	NRO 3410/Wat/2/7
1771	A plan of Walbottle Moor Colliery shows Ann Pit, Billy Pit, The Engine plus a series of boreholes, dykes and downcasts.	NRO Sant/Beq/9/1/1/29
1776	Recommendations re drainage at Walbottle Colliery by Nicholas Walton, William Brown and Anthony Waters 12 February 1776.	NRO 3410/Wat/2/10/247
1776	Engineering design of John Smeaton showing the manner of setting the 12 feet boiler of the Walbottle Engine.	TE Forster's MSS in Dodds 1930, 40; Royal Society Smeaton/Vol. Three/Folio 155, 1776
1776	Recommendations re improvements to the engine and drainage at Walbottle Moor Colliery by William Brown, John Allen, John Barnes and Anthony Waters 12 February 1776.	NRO 3410/Wat/2/12/85
1785	Estimate of the cost of sinking the Engine Pit at Walbottle Colliery 6 February 1785.	NRO 3410/Wat/2/11/25
Probably C18	Account of the depth of pits at Walbottle Colliery n.d.	NRO 3410/Wat/2/11/4
Probably C18	Plan of Walbottle Moor Colliery, showing workings in the Engine seam n.d.	NRO 3410/Wat/25/7
1804	William Casson's map shows the seventeenth century Walbottle Moors Colliery.	

Table eight: *Documentary and cartographic evidence for eighteenth century coal mining in Walbottle.*

Coal pits had previously been restricted to sites close to river transport, but this was to change with the introduction of waggonways which allowed coal working to be undertaken at distance from water transport (see chapter seven). Mines became much larger and, for the first time, commercial speculations (Wrathmell 1975, 223-225) often financed by non-landowners (Langton 1979, 123).

The Duke of Northumberland owned the Dewley pits (Dodds 1930, 40). The exact start date is unknown but was at some point in the seventeenth century. Dewley pits continued to be worked into the nineteenth century and were the workplace of George Stephenson during the early part of his career (HER 4271, Armstrong 1973, 18-19). The earthwork remains of the Lady Pit, Andrew Pit, Brass Pit and Engine Pit Number 2, which lie just outside the study area, are protected as a Scheduled Ancient Monument (SAM 30923). The plan of the Lordship dated 1767 (NRO Sant/Beq/9/1/1/24; fig. 212) shows various pits within the township.

William Brown, engine builder (his engine is shown on NRO Sant/Beq/9/1/1/24, 25; fig. 220) and colliery viewer, was brought up in Throckley. He had been appointed manager of Throckley Colliery by lessee Mr Bell in 1756. Having erected a steam engine at Throckley, Brown went on to build engines at over twenty-one other collieries (Galloway 1969, 103-104). In 1765 a new winning at Throckley was completed, and because steam-driven pumps had solved the drainage problem, the shaft could be sunken to a greater depth (Armstrong 1973, 14; Rippeth 1993, 44). There were numerous small coal pits at Throckley during the late 1700s, connected by waggonway to Lemington staiths, all worked by Mr Bell and William Brown (Dodds 1930, 35). These are shown on a series of eighteenth century plans (NRO Sant/Beq/9/1/1/24, 26, 32, 33, 35, 36, 37; fig. 88). Bell and Brown's colliery was worked out by 1794 (Rippeth 1993, 45).

There were a string of pits running north from Lemington Staiths (NRO Sant/Beq/9/1/1/6, 19, fig. 82):

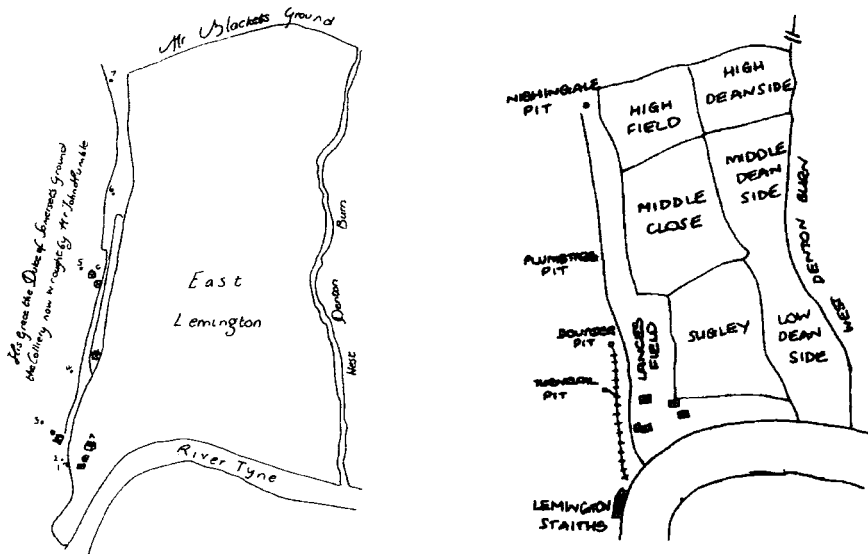


Fig. 82 Tracings of early maps of Lemington's coal pits

That on the left states that the colliery is wrought by John Humble. Seven individual pits are shown (NRO ZAN Sant/Beq/9/1/1/6). That on the right shows Nightingale Pit, Plumbtree Pit, Bounder Pit and Turnrail Pit linked to the staiths by a waggonway (NRO Sant/Beq/9/1/1/19).

Much of the post-medieval mining activity was short-lived and by the mid nineteenth century the first edition Ordnance Survey shows many of them as 'old coal pits' indicating disuse. Certainly the land at Dewley and Walbottle Moor had reverted by the 1800s to agricultural use. Spoil mounds covered with trees are a characteristic feature of the present landscape of Dewley, Newburn, Throckley and Callerton. Elsewhere the presence of former coal pits is evident as dark coaly spreads in the plough soil (The Archaeological Practice 1996b, 3, 12).

4.1.3 Nineteenth Century mining

In the early to mid nineteenth century there was a great expansion of mining in the study area (Smailes 1960, 163-164).

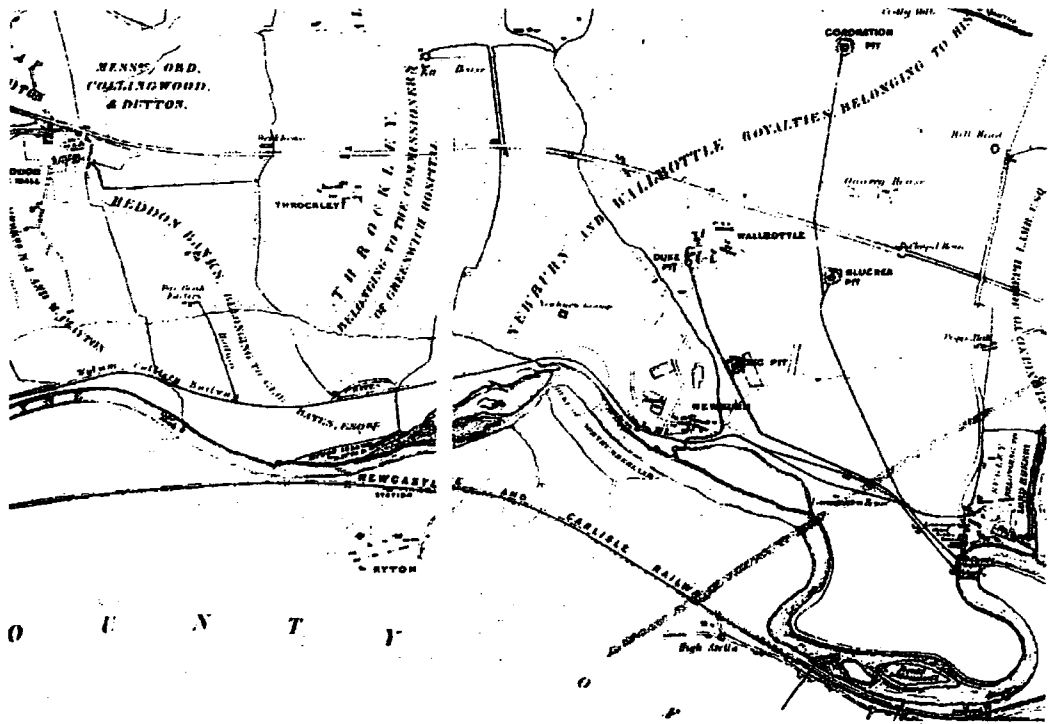


Fig. 83 Plan of Newcastle Coal District, John Thomas and William Bell, 1847. This shows the Wylam Waggonway and Walbottle waggonways and Blucher, Duke and Coronation Pits which are detailed in table nine below.

Pits	Opened	Closed	Owners	Source
Duke Pit	1740	late C19	J. Lamb, Potters and Joblings Trustees, then R.O. Lamb, then Terale & Kirton, later Kirton, Rowell & Dodd, Walbottle Coal and Firebrick Co and lastly Lemington Colliery Co Ltd.	Walbottle folder NCL; Walton and Watson 1992; www.dmm.org.uk; AC O/xviii/15; NRO 599; NRO 602/21; NRO 4354/1
Blucher Pit - named after the Prussian field-marshal who fought with Wellington Figs. 84, 85	1815 1901 1938	1867 1924/5 1956	as above Reopened by Throckley Coal Company 1901	As above; Ayris and Linsley 1994, 39; Peacock 1994; Dodds 1930, 39
Coronation Pit - named to mark the coronation of George IV	1820	1954	as above Reopened by Throckley Coal Company 1901 to facilitate drainage	Walbottle folder NCL; Walton and Watson 1992; Peacock 1994; Dodds 1930, 40
Percy Pit Figs. 86, 87	Mid to late C19	C20	Owners in the C19 were J. Lamb, Potters and Joblings Trustees, then R.O. Lamb, then Terale & Kirton, later Kirton, Rowell & Dodd, Walbottle Coal and Firebrick Co and lastly Lemington Colliery Co Ltd.	OS second edition map 1898
George Pit	Not known	Not known	As above	
Union Pit	1810	Not known	As above	NRO 725/C2/162C; NRO 3410/ZA/13/8
Wellington Pit	1813	Not known	As above	Walton and Watson 1992; NRO 3410/ZA/13/8; NRO 3410/Wat/2/25/92

Table nine: Pits owned by Walbottle Colliery, named in honour of the battles and victorious generals of the Napoleonic Wars. Nineteenth century mining in Walbottle consisted of the expansion of the earlier Duke Pit and the creation of new pits such as Blucher (NRO 602/21; NRO 4354/1; NRO 599; NRO 1072; NRO 725/C2/200; NRO ZCL 446).



Fig. 84 Blucher Colliery whilst in operation by Throckley Coal Company between 1901 and 1924 (after Peacock 1994). The photograph shows an extensive range of colliery buildings, a chimney, the headstock and the miner's cottages to the rear. Next to the colliery the fields remain as grazing land, showing that mining and agriculture co-existed.



Fig. 85 Disused colliery buildings built by the Throckley Coal Company at Blucher Pit (copyright HER, circa 1994). These buildings have since been demolished. The buildings comprised of the former winding engine house, boiler house, workshops and pithead baths. One building displayed a date stone of 1900. Of some architectural merit, this complex was not deemed worthy of listing by the Monument Protection Programme Assessment, due to being of low technological importance and poor examples of their type.



Fig. 86 Percy Pit at Newburn Hall, which opened at some point between 1858 and 1898 (copyright BKS Surveys 3026222, 26 March 1981). The workings and surrounding railway infrastructure had a huge impact on the landscape. The enormous spoil heap would have been visible for miles around.



Fig. 87 The visible effects of industry can be reversed – this is the reclaimed Percy Pit site in 2007, a country park since the late 1980s with trees and a wildlife pond (copyright author).

Pits	Opened	Closed	Owners	Source
Maria deepened Fig. 89	C18 late C19 1906	1954	Sir W.H. Stephenson (brick manufacturer and farmer), John Spencer (of Newburn Steelworks), Mr. J.B. Simpson and Mr. E.J. Boyd (both mining engineers) later NCB.	NRO Sant/Beq/9/1/1/24; Walton 1994
Meadow	C18	1954	as above	NRO 536/2; NRO Sant/Beq/9/1/1/24, 35, 37; Ordnance Survey first edition
Isabella - named after the wife of the company director Figs. 90, 91, 95, 96	1869	1954	as above	Tuck 1993, 95-98; www.dmm.org.uk; Walton 1994; NRO 407/1-24; NRO NCB/DL/D/29; NRO 725/C54/1/239; NRO 725/C2/156; NRO 725/C2/197; NRO 2212/1-6; NRO 1164/17/16; NRO ZSA 27/11
Derwentwater	1876	1954	as above later NCB	www.dmm.org.uk

Table ten: Pits owned by Throckley Colliery.

At Throckley nineteenth century mining involved the continuation of working of some of the pits which had been sunk in the eighteenth century (such as Meadow, Maria, Rye, Nymph and Thistle) but most of these were out of use by 1895 (the second edition shows them as disused). The 1805 plan of the Greenwich Hospital lands (NRO 691/1/19) shows field names such as North Pit Rig and South Pit Rig which are suggestive of mining activity. Throckley Coal Company was formed in 1862 and Throckley Colliery opened in 1867. Coal production ceased at Throckley Colliery in January 1954 (Rippeth 1993, 45). As will be discussed in chapter eight, the Colliery Company had a huge impact on the area beyond the mines themselves. See also fig. 88.

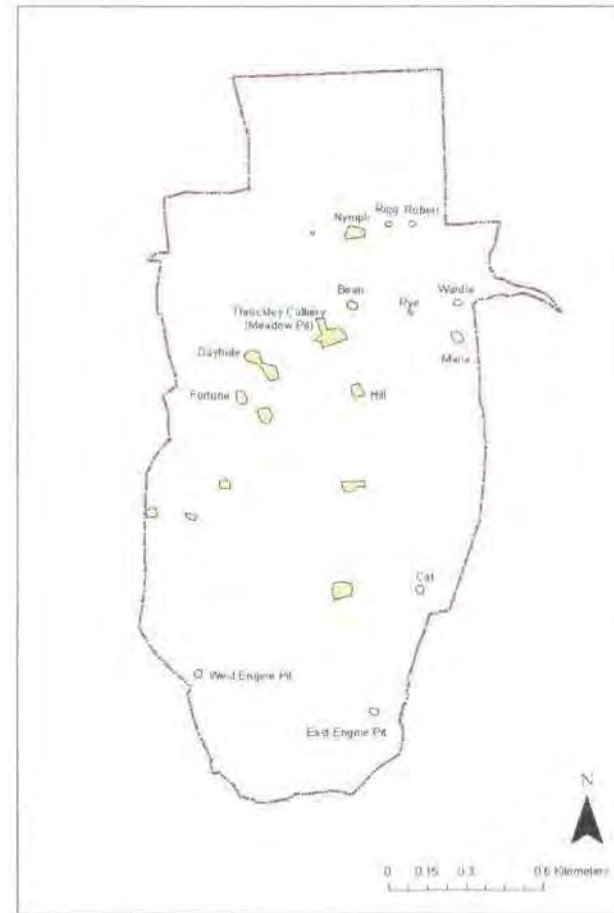
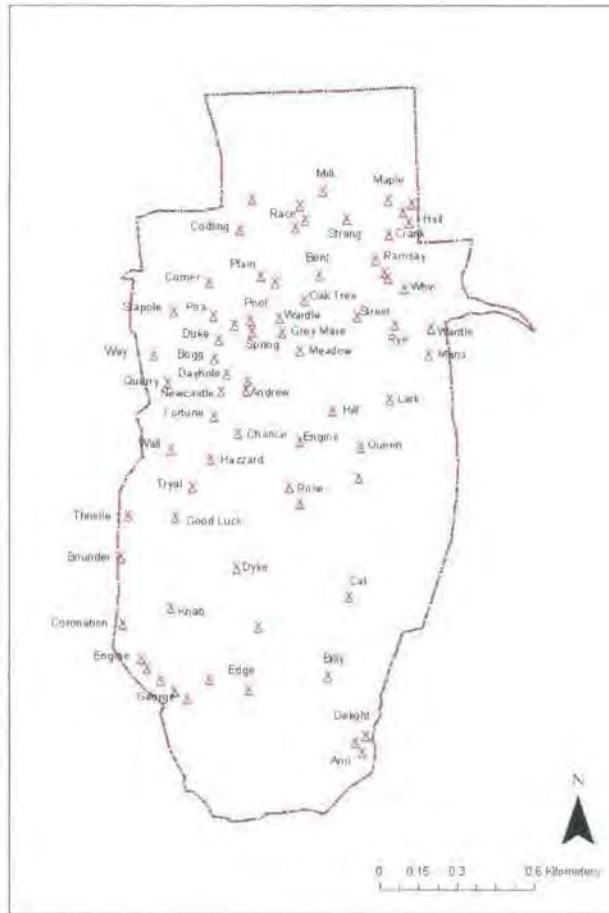


Fig. 88 These plans compare the extent of coal mining in Throckley in the eighteenth and mid nineteenth centuries. The plan on the left is indicative only and is based on a series of eighteenth century plans (NRO 536/2; NRO Sant/Beq/9/1/1/24, 35, 37). It shows a huge complex of individual pits mostly centred at the northern most part of the township. The line of pits to the south-west is evidently exploiting coal along the same seam. The plan on the left is based on Ordnance Survey first edition of 1858. Shallow individual pits were replaced by a smaller number of deeper workings. Some of the former pits (such as Meadow, Maria, Rye, Fortune and Hill Pits) were still being exploited. Most of these were out of use by second edition of 1898, but Meadow and Maria Pits continued in use until 1954 and the area of the eighteenth century Delight and Ann Pits and mid nineteenth century East Engine Pit was expanded in 1869 to become Isabella Colliery.



Fig. 89 Maria Pit, which had been in existence in 1767 (NRO Sant/Beq/9/1/1/24, 25) was expanded during the 1800s and was in operation until 1954. This photograph shows the physical and visual impact of deep shaft mining on the countryside and the adjacent housing estates. (copyright BKS Surveys 5602222E, 20 April 1960).



Fig. 90 Isabella Colliery, owned by Throckley Coal Company, was in operation from 1869 to 1954 (copyright L. Walton, after Walton 1994). This photograph shows the infrastructure associated with the mine including the mineral railway and coal drops.



Fig. 91 Alongside coal, the Throckley Coal Company manufactured coke, mainly for use at Spencer's steelworks. A bank of twenty-two coke ovens was built using Stephenson's bricks, close to the Isabella Pit in 1869. They are shown on fig. 254. In 1875 the number of ovens was doubled and three years later a disintegrator for crushing the coal was added. In 1890 another twenty coke ovens were built. When new types of oven which could collect gases and by-products superseded the Beehive in the twentieth century, the complex went out of use (Ayrís and Linsley 1994). These fragmentary remains of four beehive coke ovens survive in the woodland at Newburn Country Park (copyright author).

North Walbottle Colliery (NRO NCB/DL/D/29; NRO 725/C2/189; NRO 1072; figs. 92-3) opened in the late nineteenth century, producing Whorlton Best coal. The first shaft sunk by the North Walbottle Coal Company was 'Old Fred Pit' started in 1891. Busty or Betty Pit was sunk in 1893 and Brockwell or Mary Pit in 1894 (Peacock 1994, 12). Miners had to walk miles to work until the colliery provided cottages for the workers at North Walbottle, Westerhope and later Burn Close, Callerton (Atkinson 2004, 7; see sections 2.1 and 8.5.4). The National Coal Board took over in 1947 and the colliery closed in 1968 (Peacock 1994).



North Walbottle Colliery. 1911

*Fig. 92 North Walbottle Colliery (copyright NCL, after Peacock 1994)
This was the last colliery to open in the study area. It operated from 1891 to 1968. Like Blucher, the colliery buildings with arched fenestration and decorative brickwork, were aesthetically pleasing. The colliery was equipped with steam winding engines built circa 1900, two steam powered water pumps, a steam powered drop-hammer and pithead baths.*



Fig. 93 North Walbottle Colliery six years after closure – Still a blight on the landscape, the course of the mineral railway, which transported the coal to the staiths at Lemington by inclined plane, is still apparent. In contrast the field immediately to the east of the mine retains ridge and furrow earthworks. (copyright Fairey Surveys Ltd 5721, 27 August 1974).

During their time in operation, the collieries had a significant impact on the surrounding landscape, demonstrated in old photographs held by NCL. The visual impact of coal mining on the landscape was far-reaching. As will be seen, it extended beyond the actual pit heads in the form of associated spoil heaps, waggonways, staiths, miners' housing and coal owners residences (Rowland 1973, 179). It also spawned other industries such as coke and brick manufacture using clay extracted from the coal seams. In between the waggonways, spoil heaps and colliery buildings however the agricultural parts of the countryside would have retained its rural character (Smailes 1960, 162).

Ironically the collieries themselves are the one element of the coal mining landscape which has not survived. Today there is little to suggest that this was a skyline once dominated by headstock and winding gear. The site of Duke Pit survives as grassed-over earthworks to the immediate south of Walbottle village (fig. 94).



Fig. 94 These earthworks relate to the site of Duke Pit in Walbottle (copyright author).

Nothing survives at Blucher, the fine colliery buildings (fig. 85) have been demolished and the site is vacant. Coronation Pit and North Walbottle Colliery are covered by modern housing estates. Percy Pit (figs. 86, 87) was reclaimed in the late 1980s and Isabella Colliery (figs. 95, 96) has been transformed into Newburn Country Park.



Fig. 95 Isabella Colliery before reclamation (copyright BKS Surveys 562222E, 20 April 1960).



Fig. 96 Isabella Colliery reclaimed as Newburn Country Park (copyright R&I 14191084, 7 September 1991). The shape of the former coal workings is still apparent but the site is now grassed over and planted with trees. The west-east row of miners' cottages is Blayney Row and the north-south row is Moore Court (see chapter eight).

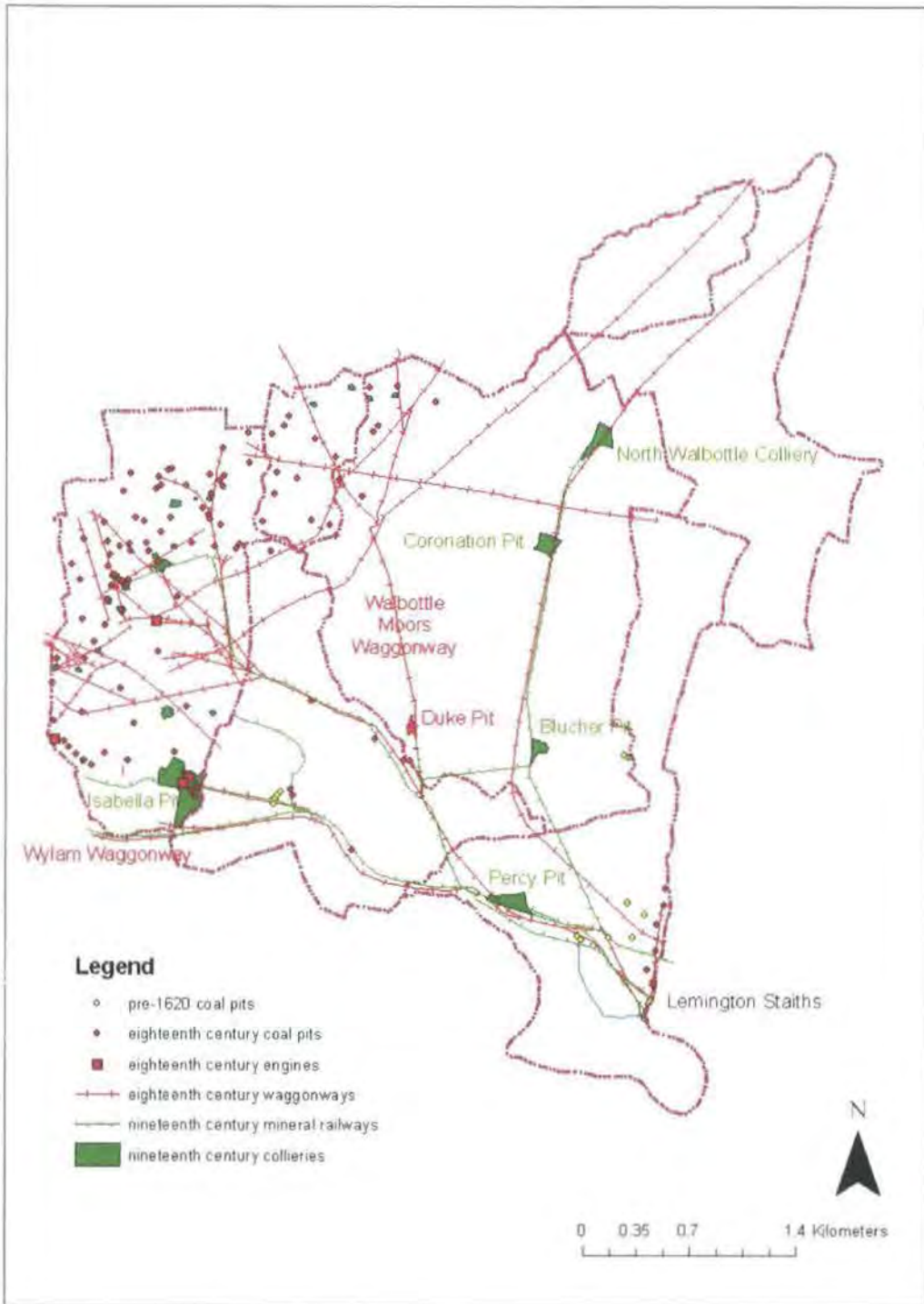


Fig. 97 Location of coal workings and associated waggonways in the study area
Based on AC O/xvii/1; NRO Sant/Beq/9/1/1/24, 25, 29, 30, 31; NRO 536/1-2 and Ordnance Survey maps.

What is most remarkable is the huge number of eighteenth century pits shown on early mapping, particularly in Lemington, Throckley and Dewley which had mostly disappeared without a trace before the nineteenth century – presumably because the coal there had been worked out.

4.2 Quarrying

As discussed, the geology of the Tyne valley comprises of heavy clay soils with patches of alluvium, sand and gravel and sandstone outcrops (Butlin 1973, 96). From an early age these deposits were extracted by the residents of the villages on behalf of the Lord of the manor for use in construction. Whilst the villagers' houses would have primarily been built of timber, the parish church (Donkin 1976, 110), the pele tower and the manor house were of stone (see chapter eight). Morris (1989, 302) notes that in northern England there was little quarrying for building purposes before the tenth century because such materials were salvaged from Hadrian's Wall. Several Roman stones, some inscribed, were found to be incorporated into medieval properties in Newburn and Walbottle. In 1725 Stukeley (*Iter Boreale*, 1776, 64) noticed a Roman stone over a stable door at the Boat Inn at Newburn. Two Roman stones were found at the Engine Inn at Walbottle in 1794 (J.C. Bruce, 1875, *Lapidarium Septentrionale*, 51) and 1906 (PSAN, 1907, iii, ii, 238). Two more were seen by Horsley built into a cow shed and field walls at Walbottle (J. Horsley, 1732, *Britannia Romana*, Northumberland x, xi, xii, 213). A Roman stone was found in the west jamb of the south window of the pele-tower in 1887 (W.T. Watkin, 1888, *Archaeological Journal*, xlv, 168).

The scale of the medieval quarry mentioned in a rental of 1499/1500 (table 11) was likely to have been small due to the techniques involved in extracting the stone. Typically the topsoil would be removed and piled alongside the trench from which the stone was broken out taking advantage of natural fissures and weathering. Archaeologically, where evidence survives, this activity leaves behind earthwork remains of trenches, pits and rubbish mounds (Aston and Rowley 1974, 162). No such remains are known in the study area, probably because later more extensive quarrying has destroyed the evidence. The nearest known example of remains of medieval clay extraction is at Potter's Bank, Durham (Petts with Gerrard 2006, 79).

At Newburn in 1620 there was a huge field called 'the Grindstones' (AC O/xvii/1; fig. 218), the name suggesting that this was the source of millstones. It was subdivided into north and south Grindstones by 1849 (NRO DT 341 M; fig. 222). In the seventeenth century, grindstones were one of Tyneside's most important exports (Raistrick 1972, 57). 'Newcastle Grindstone' was quarried for millstones at Springwell in Gateshead (Petts with Gerrard 2006, 95; Jones 1996). Sedimentary sandstones, particularly millstone grit, were used for grinding corn into flour, by the metal trade for grinding material and for shaping and smoothing, and for grinding wood into pulp for the paper industry (Jones 1996, 171, 244).

The following table outlines the documentary and cartographic evidence for quarrying in the study area:

Date	Evidence	Source
1499/1500	Rental which lists 'a quarry of slatestones held by John Elyngton and his partners, yearly rent 60s'.	SH A/ii/3a; Dodds 1930, 146
1613	Mayson's survey of 1613 states that 'the stone quarry is waste'.	AC A/iv/2; Dodds 1930, 147
1620	This plan shows fields named Grindstones, Rocken Stons, Claye Flatt, Quarry Field, Barston Pittes and Hardstone Flatt. A large quarry is shown at Walbottle where 'the ground is wasted with the gaining of stones'.	AC O/xvii/1; figs. 218, 260, 261, 262
1625	A rental which states that John Slater of Newcastle held the slate, stone or paving stone quarry in 'Walbotle' by indenture dated 1 July 1610 for 21 years, yearly rent 60s.	AC A/iii/1 in Dodds 1930, 157
1651	Rental which lists Martin Fenwicke as holding the stone quarry at Butterlaw £1 10s.	SH A/ii/11b
1700	Rental which lists Dean Quarry. Mr Dan Craster and Jno. Carr held the stone quarry called Slate Stone. Produced paving stone 'very excellent and ffine for laying Hall floors, Courts, Vaults, Kitchen floors or other such like pavements'.	AC B/i/3 in Dodds 1930, 149
1701	Rental which lists John Carr as tenant of the stone quarry.	AC B/vii/2a
1710	This survey lists the Grindstones and the Quarry Close.	AC A/vii/9
1724	Rental which lists John Carr as still leasing the stone quarries at Walbottle for an annual rent of £4.	AC B/vii/3
1726	Rental which states that there were two John Carrs and a Mr Craistor renting the quarries.	AC B/vii/4
1736	This plan includes fields called Quarry Broom, Hungry Hole, The Holes.	NRO Sant/Beq/9/1/1/34; fig. 248
1756	The lessee of the quarry was a Mr Pearson and Messrs Humble and Alcock rented the Grindstones in this rental.	AC B/vii/5
1767	This plan shows Quarry House at Walbottle.	NRO Sant/Beq/9/1/1/24; NRO ZAN Bell 45/1
1830	A proposal of Mr Swaller and Michael Menham for supply of stone from Throckley Fell at 15/6 per ton.	TWAS 1046/22
1847	Whorlton tithe map shows the Pit Field, Whinstone Quarry and quarry waste, East Colt Holes Quarry waste and House Field with an old engine and waste.	NRO DT 509 M; fig. 281
1848	Walbottle tithe map which shows Walbottle Quarry, the Old Whinstone Quarries, the Great Whinstone Dyke was also quarried separately to the north of Coronation Pit.	NRO DT 468 M; fig. 268
1858	OS first edition map shows quarries in Throckley and Walbottle village.	
1898	OS second edition map shows an old quarry on the eastern boundary of Dewley.	

Table eleven: *Documentary and cartographic evidence for quarrying activity in the study area*

The large sandstone quarry at Walbottle (fig. 98), which was present in 1620 (AC O/xvii/1; fig. 260) and was still being worked in 1848 (NRO DT 468 M; fig. 268) was equipped with 'quarry houses'. One of the dwellings was a tiled cottage of two rooms and coal house, 'inefficiently supplied with water' (NRO Zan Bell 71/11). The houses were probably vacated when the quarry went out of use between 1858 and 1898.



Fig. 98 Walbottle Quarry (copyright BKS Surveys 5602222E, 20 April 1960). It had been disused since 1898 but was visually very much apparent in 1960, amongst the agricultural fields and allotment gardens. Today the site of the in-filled quarry provides playing fields for Chapel House Middle School.

The small sandstone quarry in the centre of Walbottle village (fig. 99) was owned by the Duke of Northumberland. Stones from here were used for his Middlesex home Syon House (Walton and Watson 1992).



*Fig. 99 The site of a small sandstone quarry in Walbottle village, which is first shown on the tithe map of 1848 (NRO DT 468 M) has self-planted with trees and shrubs.
(copyright author)*

The appearance of the small quarry at Bank Top, Throckley by 1858 (fig. 252) appears to have been the reason for the downfall of the old village, as discussed in section 2.5. It was presumably opened by Greenwich Hospital as a money-spinning enterprise. The second edition Ordnance Survey mapping shows an expansion of the quarry.



Fig. 100 By 1960 the sandstone quarry at Throckley was disused and it now survives as a fenced off wooded area off Hill House Road (copyright author).

The quarrying of the Whinstone Outcrop or Dyke (fig. 281) was the most significant industrial activity in Whorlton. The coalfield is criss-crossed by igneous dykes (British Association for the Advancement of Science 1949, 20) such as this. Under normal circumstances the geological formations in this area allowed easy access to the coal measures, however here, the whinstone interrupted this. The existence of such an outcrop made the coal measures immediately surrounding it difficult to mine because the heat from the rock formation turned the coal into coke (Ayriss 1986). The Whinstone Dyke separated Blucher and Coronation Pits and prevented them from exploiting each others coal (Peacock 1994, introduction). In 1767 (NRO ZAN Bell 45/2) a path crossed the meadow known as 'Colt Holes', superseded by 1858 by a raised cartway built, without doubt, to facilitate the removal of whinstone to the main road (Ayriss 1986). The whinstone quarry continued to expand throughout the nineteenth century but is marked 'old' on the second edition Ordnance Survey of 1898 (fig. 285) indicating that by this time it was out of use. Today the eastern end of the in-filled quarry runs through a recreation ground, but the majority is built over by Chapel Park housing estate.

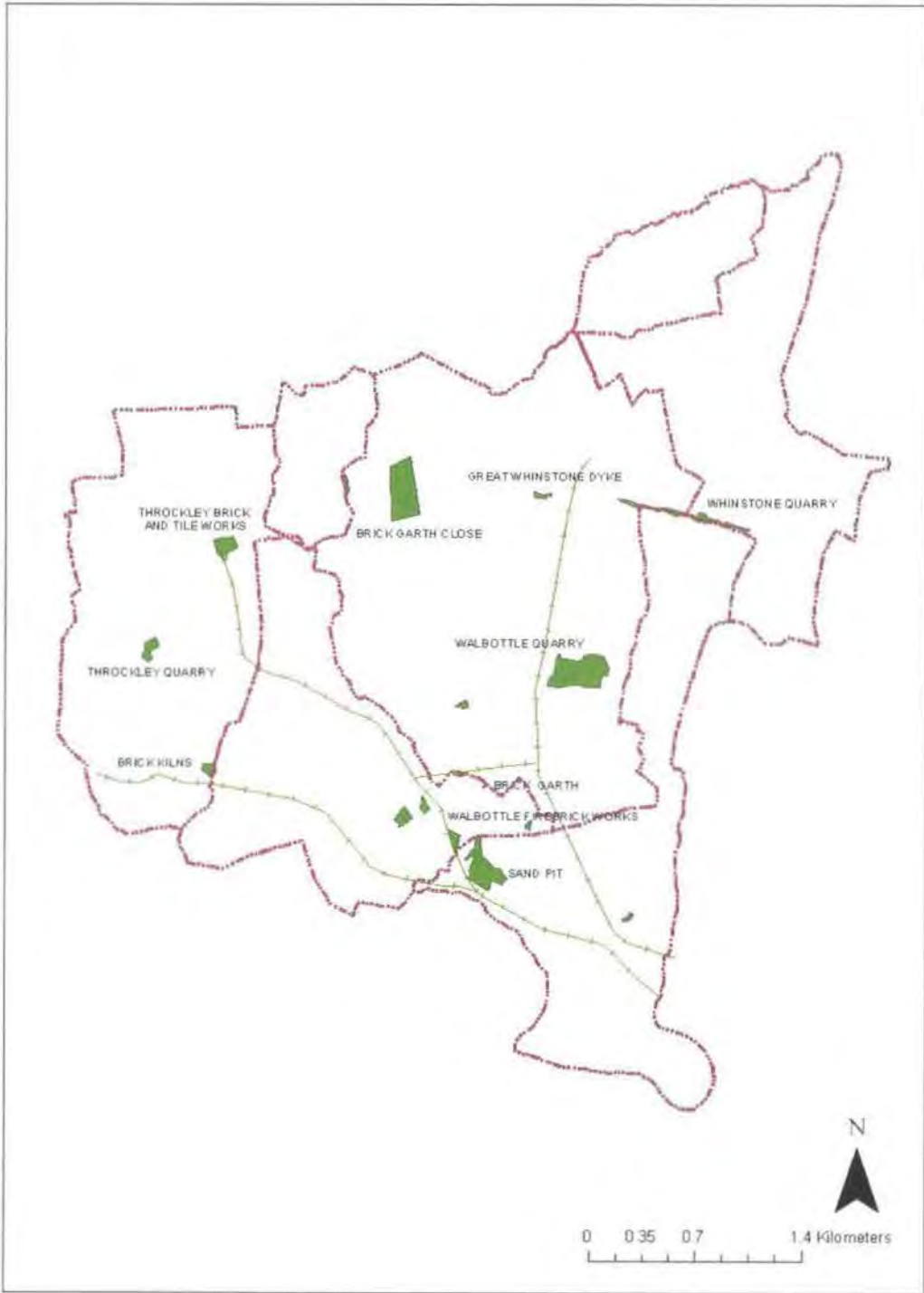


Fig. 101 This plan of the study area shows the location of quarries and brick-making sites, with their associated waggonways (based on tithe maps NRO DT 509 M, NRO DT 468 M and Ordnance Survey maps).

4.3 Brick Works

Clay pits, which usually took the form of deep rectangular holes, provided the raw material for earthworks, daub for sealing river walls, and mud and clay loess for pottery and brick manufacture (Rackham 1986, 371-372). The easily extracted boulder clays of the study area were ideal for brick production.

Building in brick must have started on Tyneside in the medieval period because there was a Company of Bricklayers in Newcastle from at least 1454 (Linsley 1992, 94). No archaeological evidence has so far been found for early brick making in the study area. A seventeenth century brick kiln was archaeologically excavated in Gateshead in 2000 (Nolan, Vaughan and ARCUS 2002).

The surviving glass cone at Lemington of 1797 is said to have used in its construction one and three-quarter million bricks, which would have meant an area of clay equivalent to three and half acres being excavated to one foot deep (Linsley 1992, 95). However the earliest evidence for brick making in the study area is the mid nineteenth century.

Small scale clay pits could never have satisfied the huge appetite for clay demanded by the brick industry in the 1800s. Clay was therefore commonly extracted during coal mining operations and mines often had brickworks alongside (Walbottle Brickworks lay next to Union Pit and Throckley Brick and Tile Works (fig. 102) were located adjacent to Maria Pit).



Fig. 102 Until 1907 products from Throckley brickworks were transported via the colliery waggonway to Lemington Staiths. Horses rode behind the loaded waggons in a dandy cart or horse-waggon, and then pulled the empty waggons back to the works (after NRO ZMD 40/3; Walton 1994; Walton 1991; Maughan 1979; Jones 1996, 106).

This section has shown that extractive industry carved great quarries out of the agrarian landscape of Newburn, which provided work for local residents and attracted workers from further afield. The abundant stone and clay was used in the local construction industry, particularly for building rows of industrial worker's dwellings. Today the quarries are worked out, in-filled (only earthworks relating to the quarry at Dewley are still clearly visible) and mostly built over, but many of the buildings constructed using their stone and bricks survive and demonstrate the importance of the quarrying and brick-making industries in this part of Tyneside. Wickham notes that cheap building products like bricks destroyed the character of the typical English village (Wickham 1932, 2). In colliery settlements however, bricks made at the pits were the building material of choice for economic reasons. Certainly it is instructive to compare the building materials of a village such as Throckley, where the oldest cottages on Hexham Road are stone-built and the contrasting rows of terraces subsequently added by the colliery company to the north and south of the ribbon settlement are of brick.

Date	Evidence	Source
1848	The Walbottle tithe map shows a small building called Tile Shades.	NRO DT 468 M; fig. 268
1849	<p>The Newburn Tithe map shows Brick Garth Field adjacent to Cut End, and Walbottle Brickworks.</p> <p>The brickworks were originally owned by the Walbottle Coal and Firebrick Company and located next to the Union Pit. Taken over by the Kirton family, who owned the adjacent sand quarry, around 1912. They extracted clay from a pit on Hogg's or Pigg's Lonnen, now Hospital Lane. In operation until 1965. Site now designated as a Local Nature Reserve and SNCI (UDP policies NC1.2 and 4).</p>	NRO DT 341 M; Davison 1986, 86-87, 89-90; Walton and Watson 1992, 12; HER 3937; fig. 224
1858	<p>Tile Shades is now named Brick Garth. Today it is a wooded enclosure. Brick Garth footpath is mentioned in 1906 (NRO QRH/270).</p> <p>Throckley Brick and Tile Works opened. Originally owned by the Stephenson family, opened next to the Maria Pit in 1849. In 1905 the works were bought out by the Throckley Coal Company later the Northern Brick Company. In 1947 the works were nationalised as part of the National Coal Board. In 1973 Gibbons (Dudley) Ltd took over. Today the works are under the ownership of Ibstock Building Products and are the only surviving brickworks in Tyne and Wear.</p>	OS first edition map; Walton 1994, introduction; Davison 1986; Williams 2006, 16; HER 3957; fig. 252
1898	Clay pit shown at Newburn.	OS second edition map
1921	Brick kilns were added at Throckley Colliery.	OS third edition map; fig. 256

Table twelve: Brickmaking evidence in the study area starts in 1848. Throckley Brickworks are still in operation in 2007.

Chapter five

Manufacturing and production

In the medieval period, industries were found widely dispersed mostly in rural areas rather than in towns (Emery 1976, 275). Newburn like much of England would have been agricultural with only a small proportion of the population engaged full-time in industry, most combined it with farming. The main industries provided food, drink, clothing and shelter and so cloth, leather and wooden goods were the main products (Patten 1979, 22). The Lay Subsidy Roll of 1296 for Newburn lists Adam the fuller (Fraser 1968, 64, No. 148). Lead was needed for windows, roofs and pottery glazes and iron for tools (Lennard 1959, 243). Raw materials were organic and supplied by agriculture and power was supplied by human, animal, wind and water (Patten 1979, 21). During the sixteenth and seventeenth centuries, there was an increase in industrial commercial production for non essential consumer goods (Cantor 1987, 146-147), new industries like brass, copperas and paper and an increase in size of industries like iron, glass, textiles, mining, salt and leather (Hill 1967, 68; Cantor 1987, 119). The wealth of many great landowners derived from industry (Cantor 1987, 177). By the end of the seventeenth century industrial landscape was more evident (Hoskins 1955, 211-212) and in some places was in competition with farming as the main rural occupation (Wild 2004, 22). A small pottery was established at Newburn in 1749 by John Brougham, china dealer of Newcastle for making Garden Pottery (Buckley 1927).

Newburn holds a seminal place in the industrial development of northern England due to its connection with a notable group of eminent pioneering engineers; George Stephenson, Hedley and the Hawthorn brothers (Watson 1976, 104) largely due to the proximity of the Wylam Waggonway. As we shall discover, the landscape of Newburn, like much of urban Northumberland derives much of its present appearance from intensive industrialisation (Butlin 1973, 93). The Industrial Revolution brought

employment, wealth and prosperity to the area but later Newburn, like many parts of Northumberland was subject to industrial decline in the twentieth century (Musgrove 1990, 298). The following sections will discuss the development of various industries which have shaped the landscape of the study area.

5.1 Milling and mills

As rightly pointed out by Hoskins, the industrial landscape had its origin in two sources – coal outcrops and running water (Hoskins 1955, 213). The study area lies adjacent to the River Tyne and was served by a number of streams which fed into it. From an early date the water of the Ouse Burn, New Burn and Dewley Burn, was used to power a series of mills. Mills were a valuable manorial resource (Britnell 1996, 43). Tenants were required to abandon hand-querns and use the lord's mill (the miller would take a portion of flour as payment, Reynolds 1970, 15) but in reality hand mills were still used (Donkin 1976, 94; Bettey 1993, 28).

Located near to the River Tyne and its tributaries, Newburn manor was ideally placed to take advantage of water power to grind its corn. Documentary sources show that mills were present in the manor from at least 1250 (SS vol. cxvii), although they could have been much earlier as the water mill had appeared in England by the eighth century (Cantor 1987, 143; Bettey 1993, 28; Donkin 1976, 94). Anglo-Saxon mills like those excavated at Tamworth (Rahtz and Meeson 1992) and Corbridge (Snape 2003) had horizontal water wheels which were fed from above with water from the mill leat or pool via a 'driving shute' (Snape 2003, 54).

The following table summarises the documentary and cartographic evidence for milling in the study area:

Document type	Date	evidence	source
IPM	1250	The recently deceased Ada de Balliol, wife of John Fitz Robert, son and heir to the manor of Newburn, had held a corn mill worth £10 a year.	SS vol. cxvii, 276, 278, 445; Dodds 1930, 142; Armstrong 1973, 7
IPM	1367	On the death of Ralf de Neville, two water mills are listed as an asset of the manor of Newburn.	Inq.p.m. 41 Edw. III. Ist numbers No.47 in Dodds 1930, 145
Rental	1499/1500	John Cartington listed a corn mill built by John Carlill and rented for a yearly 2s, and 'Thrusse mill', rented from the provost of Newborn for 2s. At Dewley the 'West Milne' was rented at 46s. 8d per year and a further corn mill was held by Christopher Errington for 3 years, at an annual rent of 40s.	SH A/ii/3a in Dodds 1930, 145
Rental	1528	In 1528 a water mill called Laman mill, in the demesne lands of the manor of Newburn, was let to Leonard Musgrave for 41 years at 20 p.a. and 6s 8d for the mill, payable at the feast of St. St. Peter and Vincula and the Purification of the Blessed Virgin.	Knowles 1915, 195-196; Dodds 1930, 147
	1559	In 1559 Lamedon Mill is mentioned.	Knowles 1915, 195-196; Dodds 1930, 150
Lease	1592	Laymedon mill mentioned, plus two corn mills £4 6s 8d and passage of the water at Trush Mylne 2s.	SH A/i/11 in Dodds 1930, 147
Sketch	early C17	Sketch of Throckley which includes a mill.	PRO MRI/252/4
Survey	1607	Stockdale's survey lists the 'litle mylne' annual rent as 6s 8d, the 'over milne' at 40s, a mill held by John Fenwick, and the farmer of Thrush Milne 'holds a water course to the mill and the passage of the Tyne' for a rent of 2s.	AC A/1/iii/1 in Dodds 1930, 147
Survey	1613	Mayson's survey of the manor in 1613 lists two water 'come' mills, an upper mill held by Cuthbert Heron, and a lower mill held by John Fenwick.	AC A/iv/2 in Dodds 1930, 147
Plan	1620	Shows a 'milne' and mill hill at Newburn, 'Throckley Millne' is shown on Throckley Moore with a dam or pond on the Ouse Burn.	AC A/xvii/1, figs. 218, 246

Rental	1622	John Fenwick held the water corn mill for 18 years from 1609 for £4. John Hudson held a mill to be erected for 21 years from 1624, 40s. The name John Hudson is crossed out and the name Martin Fenwicke written alongside. Martin Fenwicke (crossed out and replaced by John Fenwicke) held a water corn mill, £6. Cuthbert Hearon held a water corn mill called the over mill.	SH A/ii/11a in Dodds 1930, 148
Rental	1651	Martin Fenwicke held a water corn mill, £6.	SH A/ii/11b in Dodds 1930, 148
Rental	1700-1	Sir Orlando Gee held a little mill called Lemedon. John Hunter the Dean and 'upper milne' 40s. Mr Dan Craster and Dorothy Hunter widow the 'upper water corn milne' £7. Jn. Carr and his wife, Dan Craster and his wife Elizabeth the 'lower milne' for £3.	AC B/i/6 in Dodds 1930, 149; AC B/vii/2a
Survey	1710	Mill Field 7 acres	AC A/vii/9
	1728	Excessive rain caused the New Burn to flood and carry away a stable, oat kiln and John Parley's mill and house.	Richardson 1841, 368
Rental	1735	Late Lord Derwentwater's Estate of 1735 lists a 'miln' leased to Robert Wilson at a rent of £16.	NRO ZCK 14/2
Lease	1748	Lemedon mill was leased to Henry Masterman.	AC B/i/10 in Dodds 1930, 150
Plan	1767	A new Throckley Mill is built on the township boundary with Dewley and the Dewley Burn is straightened.	NRO Sant Beq/9/1/124 and 25
	1771	High Mill was swept away by a flood at the same time as the medieval Tyne Bridge.	Mackenzie 1825, 474
	1786	After heavy rainfall the waggonway bridge over the new burn blocked up and the stream burst its banks, carrying away an adjoining mill and three houses at Newburn.	Richardson 1844, 311-312
Plan	1805	Throckley Mill, Miller's Close and Miller's South Close	NRO ZAN Bell 69/10; NRO 691/1/19; fig. 103
OS Map	1858	Throckley Mill (Corn), pond and race	OS first edition; fig. 252
OS Map	1898	Dewley Mill and old mill race	OS second edition; fig. 254
OS Map	1921	Dewley Mill and old mill race	OS third edition; fig. 256
OS Map	1960	Dewley Mill and old mill race	OS fifth edition; fig. 258

Table 13: Documentary and cartographic evidence for milling in the study area

The location of the medieval mills in the study area is not known. They would probably have had vertical wheels (both undershot and overshot wheels are known in the medieval period, Cantor 1987, 143). As the name suggests, undershot wheels were fed with water at low level from the mill race (Snape 2003, 55) and used flat blades to turn the wheel, while overshot wheels were fed with water at the top and turned using the weight of the water in a series of troughs (Richardson 1974, 145). The earliest mills would most likely have been timber or timber framed with wattle and daub walls, the wheel outside the building and the axle passing through the wall to turn the pair of millstones (Reynolds 1970, 17). Section 4.2 detailed the locally available sources of stone suitable for millstones. The mill wheel was also timber, with iron fittings. Cast-iron was not used to a greater degree until the eighteenth century (Reynolds 1970, 28, 41). The mills in Newburn may have had a stone floor like the mill at Corbridge (Snape 2003, 56).

There was a new type of mill at the end of the twelfth century, the windmill (Hoskins 1955, 110; Bettey 1993, 28). The first known documentary reference to a windmill is in 1191 and they spread across windswept eastern England during the course of the thirteenth century (Beresford 1957, 82; Rahtz 1981). The Newcastle area was particularly prominent but no windmills are known in the study area. There are hills which would have been suitable sites for windmills, but given the number of fast-running streams, water mills were probably used instead.

The reference to a mill at Laman in 1528 (Knowles 1915) is particularly interesting. It is assumed that Laman, later Laymedon is from where the name Lemington is derived and so 1528 is the earliest known reference to Lemington as a place name.

The plan of the manor dated 1620 (AC O/xvii/1; fig. 218) shows a 'milne' on the New Burn. This could be the 'High Watermill', held by Cuthbert Heron in 1613 (AC A/iv/2),

John Hunter in 1700 (AC B/i/6) and which was swept away by a flood in 1771 (Mackenzie 1825, 474).

Throckley Mill is also depicted on the 1620 plan (fig. 246). By 1767 (NRO Sant/Beq/9/1/1/24) the mill had been moved east along the burn, closer to Dewley. The mill was fed by the Dewley Burn which was dammed into a large mill pond and then channelled to the mill-wheel by a race in order to maintain an even flow of water and to increase the head of water in case of a drought (Reynolds 1970, 19; Bettey 1993, 28; Donkin 1976, 94). The shape of the pond differs between 1805 (NRO 691/1/19; fig. 250) and 1858 (fig. 252). The mill probably had a grain drying kiln attached (Jones 1996, 417). Bread was the staple diet of the majority of people and so the miller was an important figure in rural society (Cantor 1987, 143; Donkin 1976, 94). Whellan's Directory of 1855 lists Thomas Patterson as corn miller at Throckley Mill and the census return of 1861 shows that Dewley Mill was occupied by George Moire, miller. The mill race is 'old' by the second edition mapping of 1898, suggesting that the mill was by then mechanised. Remarkably, despite clearance of cottages at the mill in the 1930s (TWAS UD/Nb/40/15), the mill was still extant in 1960.

Potentially the original site of Throckley Mill and the 'milne' at Newburn shown on the 1620 map (AC O/xvii/1) could have been located on sites utilised in the medieval period. Unfortunately the opportunity of archaeologically excavating the site of Throckley Mill has been lost because the site has been subject to opencast mining (fig. 18). Boldon Mill (Stobbs 1992; Tyne and Wear Museums 1992) and Jesmond Vale flint mill are the only water mills which have been archaeologically excavated in Tyne and Wear. The excavation of the latter mill revealed walls and the floor of the mill drying shed (The Archaeological Practice 1989). Only Path Head and Jesmond Dene Mills are still standing and the latter is in ruins. Further afield Plessey Mill survives in Blyth and Waren Mill at Easington (Petts with Gerrard 2006, 99).

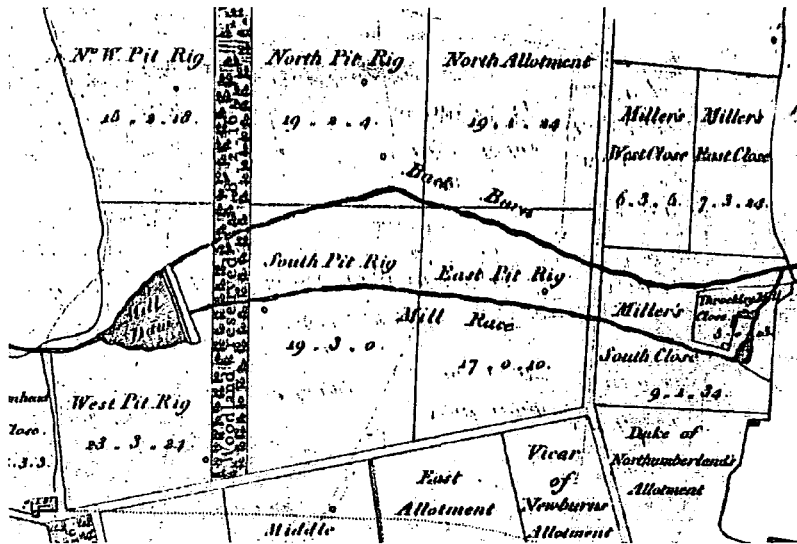


Fig. 103 Throckley Mill with its race and mill pond on a map of the Greenwich Hospital Estates 1805 (NRO 691/1/19; NCL L942.82 W151N). The mill, which had been built at this position before 1767 (NRO Sant/Beq/9/1/1/24) was still present in 1960.

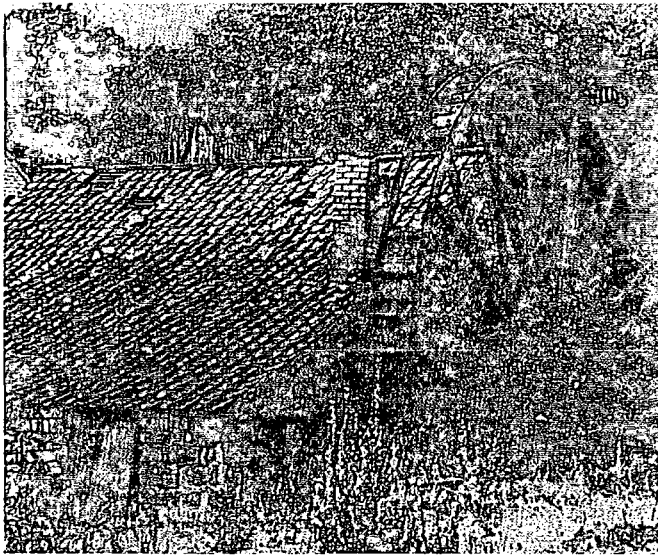


Fig. 104 A rather dilapidated mill and waterwheel at Newburn, 1933, shortly before demolition (copyright Sunday Sun August 1971). It is absolutely remarkable that this structure survived the construction of the steelworks. A corn mill with a 30 ft. breast wheel was acquired by John Spencer of the Steelworks in 1830 to grind files (Armstrong 1973, 24). Water technology was eventually replaced by steam engine. Was this the 'low watermill' held by Hedley (Mackenzie 1825, 474)?

The use of water power to drive machinery led to the development of post medieval factories (Hoskins 1955, 216). In the late sixteenth and early seventeenth centuries, water power was employed to drive grain and textile mills, to crush ore, to work trip-hammers for iron, brass and wire manufacture, to drive wheels for saw-milling and knife-grinding and paper-making (Cantor 1987, 147; Reed 1990, 230). By the

nineteenth century, pioneers such as Hedley and Spencer were quick to realise that the same water source could be tapped to drive their modern machinery. Low watermill, said to have been occupied by Hedley, was situated near the bridge over the New Burn near to the site of Spencer's later file manufactory (Mackenzie 1825, 474; Armstrong 1973, 24).

5.2 Fisheries

Fish were another important part of the medieval diet. Eels and salmon are mentioned in Domesday Book. Fisheries (*piscaria* or *piscine*) usually comprised of weirs or fish traps along main rivers and their tributaries (Rowley 1983, 73; Darby 1977, 279). Fishing also benefited the manorial economy because the fisheries were either let for rent or reserved for supplying the lord's table (Lennard 1959, 248-249). Sea fish were also widely available. An account of Durham Priory in the fifteenth century lists sixty-five kinds of fish and shellfish (Bettey 1993, 22).

Date	Name of Fishery	Evidence	Source
1229	Crook	This fishery was granted by Roger Bertram to William Briton between 1229 and 1235. It was later granted by Thomas of Aslakby to Finchale Priory. The account rolls of the priory frequently list receipts from the fishery 'receptis de piscaria del Croke super Tynam'.	SS vol. vi, 81-2, cxlx; Dodds 1930, 152; Armstrong 1973, 7
1250		In November 1250 Ada de Baliol, wife of John Fitz Robert, son and heir to the manor of Newburn, held a fishery in the Tyne worth 18 marks.	SS vol. cxvii, 307; Armstrong 1973, 7
1367		IPM of Ralf de Neville 9th September 1367 listed a fishery in the Tyne £10.	SS vol. cxvii, 433
1368	Throckley	The owners of the two moieties of Throckley sued three poachers who had taken fish worth £10 from their fishery of Throckley.	Dodds 1930, 161
1379	Fuyle and Drypintille	Given to Hexham Priory in 1379 by Roger Bertram. Their boundaries were 'Grunes grene on west, East halgh on north, les Croket spechynes on east, Bladen Bankes on south'. Let for 26s 8d per annum.	SS vol. xvi, 56; Dodds 1930, 153; Armstrong 1973, 7
1499/1500		Cartington's rental lists a fishery in the Tyne, yearly rent £14, in the lord's hand.	SH A/ii/3a; Dodds 1930, 146
1581		The accounts of bailiffs, reeves and farmers included farm of the fishery below Newburn for £13.	James 1955
1592		Survey includes farm of the fishing in 'Newborne' £14.	SH A/ii/11; Dodds 1930, 147
1606		The Newburn fishery belonging to Hexham Priory was granted to John Halsey and others.	Dodds 1930, 153
1607		Stockdale's survey states that the tenants of Newburn, Walbottle and Butterlaw hold the fishing for £14.	AC A/ii/111/1; Dodds 1930, 147
1609		A suit in the Exchequer to determine its boundaries. The crown lessee was Michael Milbourne, who sub-let the fishery to Robert Chambers, Edmund Chicken, Matthew Talor.	Dodds 1930, 152
1611-1612	Cryme or Crookhead and The Ladyshutt	Proceedings relating to the boundaries of Newburn 'fishings'. Chambers v Johnson and others.	PRO E 178/4360
1612		The accounts of bailiffs, reeves and farmers included the Tyne Fishery at Newburn, leased to George Whitehead £20.	James 1955, 24 SS vol. cxliii
1613		Mayson's survey lists the fishery in the Tyne, rent £14, in the lord's hand.	AC A/iv/2; Dodds 1930, 148
1622		Rental lists Newburn fishing, George Whitehead for 21 years from 1607, £20.	SH A/ii/11a; Dodds 1930, 148
1651		Martin Fenwicke and others rented the 'fishing' in the water of Tyne for £26 13s 4d.	SH A/ii/11b; Dodds 1930, 148
1656		Thomas Lamb sold his fishery at Newburn to John Blith and Catherine his wife.	Feet of Fines, Northumb. Commonwealth, March, 1656 in Dodds 1930, 153
1701		John Hunter held the 'fishings'.	AC B/vii/2a
1724		George Richardson and others held the 'fishing'.	AC B/vii/3

1726		George Richardson, John Hunter and others held the 'fishing'.	AC B/vii/4
1756		Matthew Richardson and Mr Longridge for the fishery, £15 rent.	AC B/vii/5, 6
1761		Two hundred and sixty salmon were caught in a single draught of a net at Newburn.	Honeyman 1949, 266
1764		In May 1764 a salmon weighing 54lb was caught at Newburn.	Adamson 1973, 12
1800		Sixteen hundred salmon were apparently caught in one tide between Newburn and Scotswood Bridge and sold for 11 ¼ d per pound at the fish market on Sandhill.	Armstrong 1973, 8
1851	The Crook	Owned by Thomas John Taylor and Hugh Taylor. Occupied by Thomas and Robert Forster. Annual rent £16.	List of fisheries in the River Tyne, Bell MSS. Portfolio 65 in Dodds 1930, 153
1851	Newburn and part of Crumbwells	Owned by the Duke of Northumberland. Occupied by Robert Forster. Annual rent £100.	List of fisheries in the River Tyne, Bell MSS. Portfolio 65 in Dodds 1930, 153
1852	Black Stones	Located at Newburn. Extended from the western boundary of the manor to the eastern boundary adjoining Sugley grounds at Lemington. Robert Forster is tenant of the Duke's fishery.	Dodds 1930, 153
1852	Crook	Commences on Lemington Haugh shore and extends 240 yards towards Lemington. Owned by Hugh and Thomas John Taylor. They use two boats. Robert Forster was owner of a moiety of Crook fishery but sold it.	Dodds 1930, 153
1886		George Forster was proprietor of the salmon fisheries at Newburn.	Kelly 1886, 415

Table fourteen: Documentary evidence for fisheries in the study area.

There were at least five fisheries in Newburn manor. Situated next to the River Tyne, it is no wonder that fisheries were amongst the most important contributors to the early economy of Newburn. After the Dissolution the fisheries were leased by the Crown, later by the lord, to various tenants (Dodds 1930, 152-153; PRO E 178/4360; SH A/ii/11a, 11b) as can be seen in the above table.

The evidence set out in the table shows that fishing was still a thriving industry in the eighteenth century. The Tyne was long celebrated for its salmon fisheries (Bailey and Culley 1797, 23). Annual rents for 1851 show that Newburn was the most lucrative fishery on this part of the River Tyne. The rent for Newburn fishery was £100, compared for example with the rent for St. Anthony which was £2, Bill Point which was £7 and Benwell which was £50 (Dodds 1930, 153). The fish were destined for the market at Newcastle (Armstrong 1973, 8). Mackenzie (1811, 473), records that of the total population of 1429 of Newburn, 963 people were employed in the mines and 466 in the salmon fisheries.

Fishing is a rare example of an industry which continued uninterrupted, from the medieval period until relatively modern times. The fisheries went out of use at some point after 1886 due to pollution (Armstrong 1973, 7-8). An 'old fish weir' is shown on the second edition Ordnance Survey map (fig. 254). Fishing as an activity leaves little archaeological trace, except for rarely preserved traces of fish weirs like an Anglo-Saxon example found in an excavation at The Close in Newcastle in 2005 (Archaeological Services Durham University, forthcoming). Unfortunately as will be discussed, no trace of medieval or post medieval fish traps or weirs is ever likely to be found at Newburn due to the nineteenth century river improvements which will almost certainly have removed all archaeological evidence. In this instance, documentary sources are the only remaining confirmation that Newburn was once a thriving fishing village. Any fish bones found during future archaeological excavations however, would

indicate the importance of fishing. Environmental analysis could provide information on fish species and date.

5.3 Waterworks

It was not just the utilisation of river water which had an impact on the landscape of Newburn. The installation of a pumped water supply to Newcastle had significant consequences because the pumping station was at Newburn riverside.



*Fig. 105 Newburn Water Pumping Station constructed by R. Cail in 1855 for the Whittle Dean Water Company, now the Keelman Public House, listed grade 2 (7/29).
(copyright author)*

There were a series of Cholera outbreaks in the early nineteenth century. In 1832 an epidemic affected 424 out of 515 persons in Newburn (Richardson 1844, 106; Middlebrook 1950, 174, 204). Kelly (1886, 415) reported that 'the village of Newburn suffered more than any other part of England' and the 57 victims who died were buried in Newburn churchyard (Sykes 1866, 2, 333). Newcastle suffered another outbreak in 1848-49 (Middlebrook 1950, 204). Newburn Water Pumping Station was built as a consequence of a third cholera outbreak in 1853. Up until this point the water supply for Newcastle was extracted from the Tyne at Elswick but the water was polluted by the discharge from sewers (Middlebrook 1950, 202).

The pumping station at Newburn used an engine converted by Hawthorn from the earlier station at Elswick (Rennison 1979, 79). It apparently cost around £3000 to construct, was engineered by Robert Nicholson (HER 1036; listed building description 7/29) and originally comprised of an engine house, boiler house, an 80ft high chimney, a small cottage for the engineman and a siding to the Wylam Waggonway (TWAS PA 1130). It extracted water from the river through a 33ft wide gravel-filled channel (Rennison 1979, 79). Only the listed engine and boiler houses now survive and they are now converted into the Keelman public house (fig. 105). A pumping station was added at nearby Wylam in 1873, even further up-river away from the polluted water of Newcastle. The river water was supplied to water pumps in the villages (Rippeth 1993, 6, 41) such as those shown on Ordnance Survey maps on Walbottle Green (fig. 106) and Newburn High Street.



*Fig. 106 Drinking fountain on Walbottle Green c. 1910. The fountain has now gone.
(copyright NCL neg. 60/10/92 acc. 58115)*

The cholera outbreaks eventually brought about a rethink about using un-purified river water for drinking (Rennison 1979, 59) and so filter beds were constructed at Throckley (Rippeth 1993, 6, 41; fig. 107). These are shown on the Ordnance Survey second edition map of 1898 (fig. 254).



Fig. 107 Substantial brick and stone retaining walls still hold up the Throckley Filter Beds high above Hexham Road. They are a prominent architectural feature (copyright author).

The development of Throckley water treatment works began in 1869, when an earthenware pipe aqueduct was completed to bring a clean drinking water supply from Whelton reservoir in Whittle Dean at Horsley to a well at Throckley (Watson 1976, 104). Filter beds, designed by John Bateman to improve the water quality, were completed in 1875 by the Newcastle and Gateshead Water Company (Rennison 1979, 135). In 1877 additional filters were added which needed substantial brick retaining walls to hold back the volume of earth (Rennison 1979, 146; fig. 107). On several occasions between 1877 and 78 sections of these walls collapsed (Rennison 1979, 146). A further main was added from Throckley to Benwell to improve the supply to Newcastle (Rennison 1979, 149). Throckley landowners the Commissioners of Greenwich Hospital objected to further land being purchased for more filters in 1888 (Rennison 1979, 177). At the turn of the twentieth century, the principal retaining wall was suffering from subsidence, and in 1905 the adjacent Wesleyan chapel had to be compensated for damage caused by leaking water (Rennison 1979, 202). The works had smaller rapid gravity filters installed in 1956 (Rennison 1979, 136; Frain 2002, 10). The water treatment works are still in the ownership of Northumbrian Water but are in the process of being decommissioned.



*Fig. 108 Valve house, south side of Hexham Road, Throckley, built in 1890 for Newcastle and Gateshead Water Company. Listed grade 2 (7/32).
(copyright author)*



Fig. 109 Second valve house, within Filter Beds site, north side of Hexham Road, also listed grade 2 (7/31) and built in 1870 (copyright HER). The two valve houses are of completely different materials and design. This earlier house is stone built with ashlar quoins and a brick chimney. The later house above is brick built with ashlar dressings and decorative bargeboards and finials.

The works themselves are of considerable industrial archaeological interest as they mark an important step-forward in the story of how Newcastle was first supplied with clean water.



Fig. 110 Throckley Filter Beds (copyright HER)

The construction of the water treatment works and aqueducts involved extensive excavation works which will have truncated archaeological features such as the Roman Wall ditch. In 1879 a hoard of over 5000 Roman coins were found in a pot when water pipes for the Throckley water treatment works were being laid (Clayton 1880, 256-80; Hedley 1931, 2-48).

5.4 Glass making

Glassmaking originated as a 'forest-fringe' activity using wood as fuel but it expanded beyond the forests when coal replaced timber (Patten 1979, 28). There is no documentary evidence relating to medieval glass making in Newburn but this does not mean that it did not take place. There were woods here (described in section 3.10) which could have supplied fuel. The earliest reference to glass making in Tyne and Wear is Bede's account of the glassmakers brought from Gaul to glaze the windows of Monkwearmouth Abbey (Page 1907, 275, 309). Glass residues and furnace-lining were found during the excavations of the Anglo-Saxon monastery (Cramp 1969, 22, 24). By the fifteenth century only a few glassmakers remained active in England and most glass was imported from Europe. By the sixteenth century the small-scale glass industry was on the point of collapse due to a shortage of timber. Restrictions were imposed on the use of wood as a fuel for glass production (Cantor 1987, 139).

Bourne (1736, 155) indicates that glass was being made in Newcastle before the establishment of the earliest commercial glassworks in Newcastle, the 1617 works of

Sir Robert Mansell, which he set up near the mouth of the Ouse Burn. Mansell, Treasurer of the Navy and later Vice-Admiral of England had, in 1615, obtained a patent for using coal for glass production (Cantor 1987, 139). The use of coal for glassmaking made Tyneside the national focus for glass production. Mansell died in 1653 but the business continued until 1679, when the glasshouses changed hands, becoming the Low, Middle and High Glass Houses of the Huguenot families of Henzell and Tyzack (Bray 1972; Buckley n.d., 27-29). By 1696 there were eleven glasshouses in Newcastle (Ellison, Finch and Harbottle 1979, 168; Clephan 1879). Sixteenth and seventeenth century glass has been found in archaeological excavations (Harbottle and Fraser 1987, 105).



Fig. 111 Lemington glass cone (copyright HER)

This structure, which dates to 1787, is listed grade 2 (10/24). It was archaeologically recorded and evaluated in 1997 (Northern Counties Archaeological Services 1997) after which it was used as a commercial salesroom.*

Lemington Glass Works (NRO ZAN Bell 44/5; NRO 68/1, 7 ,8; NRO 2659/52) opened in 1787 when the Duke of Northumberland leased some land to a group of businessmen who set up the Northumberland Glass Company (Mackenzie 1825, 382; Dodds 1930, 150; Bray 1972). The original works had four glass cones making flat

glass (AC O/xvii/22-3, 31). In 1833 the firm was taken over by Joseph Lamb and Company and in 1898 George Sowerby and Sons took over (Rippeth 1993, 67; Buckley n.d.). In 1906 the site was purchased from the Duke of Northumberland by the General Electric Company, who fitted it out for production of light bulbs and tubes (Newcastle City Council 2006). Eventually all but one of the cones was demolished (HER 4035; RCHME 1993). The remaining one (fig. 111), is one of only four such survivals in the country (Ayriss and Linsley 1994, 47). The development of the glass works was instrumental in the growth of Lemington, with its rows of cottages (such as High and Low Rows immediately next to the cones, fig. 112), public houses, chapels and school.

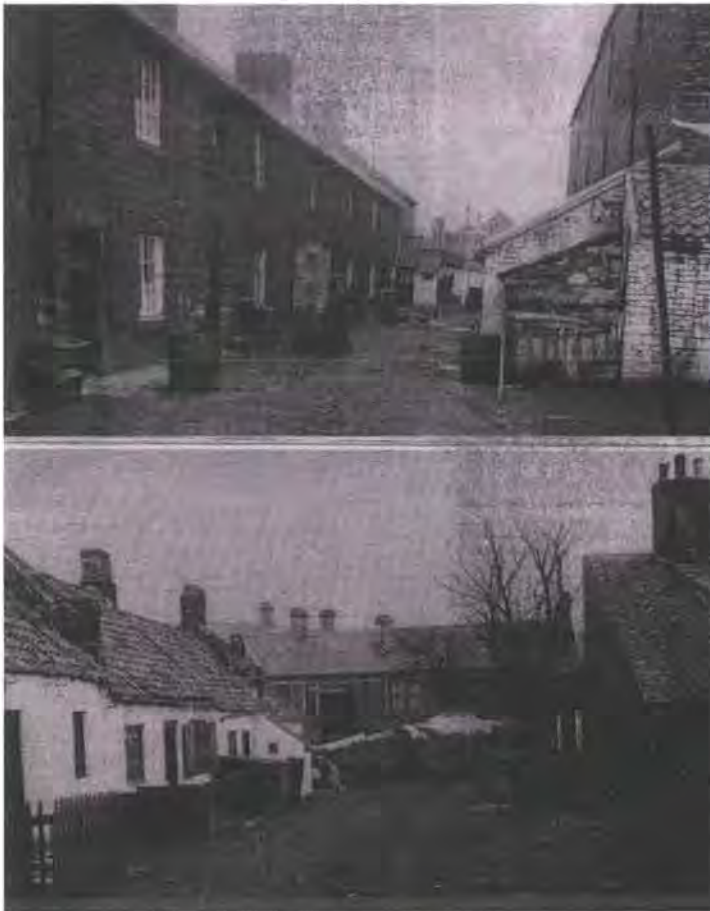


Fig. 112 Old workers cottages at Lemington Glassworks (after Walton 1991)

It is interesting that the houses on the top photograph are two storey, and those on the bottom are single storey and whitewashed, with a small fenced garden area. Perhaps there was a hierarchy of workers, hence the different types of housing. Presumably the barrels on the top photograph were used for washing. High Row was cleared in 1931-9 (Twas UD/Nb/40/19-20).

5.5 Lead

There is no lead in the Newburn area, but the industry has nevertheless affected the region. According to Linsley (n.d.) a bridle path which once ran past Cutty Coats Farm (see chapter eight), would have once been used by lead-carrying packhorses and Cutty Coats may actually have been the home base for a smallholder involved in the lead-carrying trade (Linsley, n.d.). The crossroads on the toll road at Throckley is captioned 'Lead Gate' on Fryer's map of 1820 (fig. 113) and adjacent buildings were known as 'Lead House' by 1858 (first edition Ordnance Survey map) and were apparently lead store houses for the Langley Lead Company (Walton 1994, 17; Northern Counties Archaeological Services 2001, 11). An 'old lead wharf' is shown on the Newburn Tithe Map of 1849 (NRO DT 341 M).



Fig. 113 'Lead Gate' is shown on Fryer's map of 1820.

The Primitive Methodists who built a chapel at Throckley in 1891 were mainly miners who moved from the lead mines of Allendale to work in the coal mines (Rippeth 1993, 51). The link between the lead industry and Throckley appears to be the landowner: the lead mines on Alston Moor were owned by the lords of Throckley, the Radcliffe family then Greenwich Hospital from 1734 (Poole and Raistrick 1949, 90). The eighteenth century 'Lead Road', which survives in part as a modern carriageway at Greenside near Ryton, linked the mines and smelt mills at Alston Moor and Allendale to Ryton (Raistrick 1972, 132) which lies opposite Newburn on the south bank of the Tyne.

Presumably the ford was used to bring the lead across the river and for whatever reason the mine owners built lead storage buildings within their holdings on the main road into Newcastle.

5.6 Iron Works

Metal working began early in Newburn. Cartington's rental of 1499-1500 lists a forge held by Thomas Robson for a yearly rent of 8d (SH A/ii/3a). A further 'smith's forge' was built on the manorial waste around 1700 (AC B/i/3).

In 1797 the Tyne Iron Works was established at Lemington by Fishwick Gibson & Co. (Tyne and Wear County Council Museums 1982, 16). This was the first site in Northumberland where there was integrated iron ore smelting and iron working on a large scale (Linsley 1992, 97). Locally extracted iron ore had been exported to Scotland until the Tyne Iron Works began. At its height the works produced 56 tons of pig iron per week (Honeyman 1949, 257). When the Tyne Iron Works were auctioned on 21 May 1870, the sale included two blast furnaces, a rolling mill, a foundry, smiths shop, thirty-six coke ovens, seven calcining kilns (fig. 116), forty workmen's dwelling houses, a public house, a mansion house and Sugley Farm of 31 acres. The Tyne Iron Company then consisted of Charles Palmer, John Clayton, George Clayton Atkinson, Frances P. Atkinson and Rev. William Atkinson (NRO ZAN Bell 69/8). Tyne Iron Works was the second major industry to come to Lemington (the first being glass), and it helped develop the staith-side hamlet into a worker's settlement.

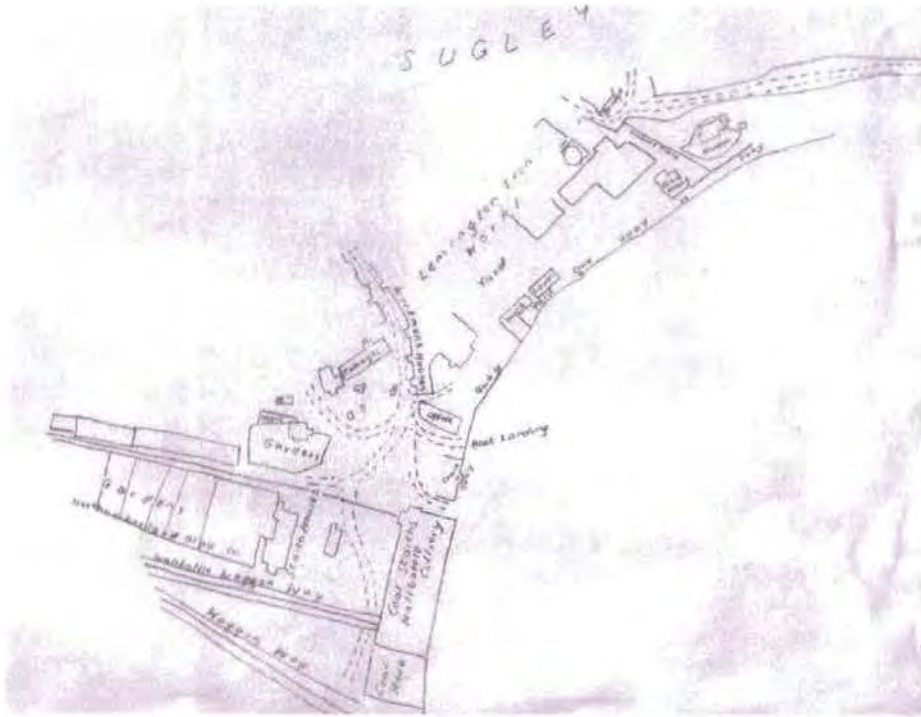


Fig. 114 Tracing of a plan (NRO ZAN Bell 10/3), probably nineteenth century in date, which shows Lemington Iron Works, workers cottages, warehouses, an inclined plane, the staiths and waggonways on the banks of the River Tyne.



Fig. 115 Remains of Tyne Iron Works – a number of large stone buildings and retaining walls survive. The prominent arches in the top right photograph may have housed puddling or re-heat furnaces or may simply represent a viaduct ramp to the blast furnace top (HER 4346). Another prominent ramp seems to incorporate rooms. In a long stretch of rubble-built wall, the former doorways to the workers' houses can be seen (Grundy et al. 1992, 374). The bottom right photo is the grade two listed (10/25) manager's house of c. 1830 (copyright author).

The works were taken over by John Spencer and renamed the Tyne Haematite Iron Co. in 1871. This was a short term enterprise as the Carlist War ceased their supply of iron ore from Spain, and the works closed in 1876. An interesting account of the iron works was given in 1802 by Eric T. Svedenstierna in his book 'The travel diary of an industrial spy' (Armstrong 1973, 20; Mackenzie 1825, vol. 1, 163, vol. 2, 382; Smailes 1960, 168; HER 4346; Dodds 1930, 150-151).

After closure, the site was bisected by Scotswood road and a tramway. In 1903 the Newcastle and District Lighting Company erected a power station (fig. 34) on part of the site (Newcastle City Council 2006). However the surviving remains of the ironworks are extensive (fig. 115). To the north of Scotswood road up until 2006, coke ovens and calciner remains (fig. 116) survived. The iron works require a full archaeological survey and excavation, in order that the function of the ruined remains can be understood.

Similar work has been undertaken at Swalwell (Pre-Construct Archaeology 2007) and Gateshead Iron Works (Parker 2006; Bartlett 2006).



Fig. 116 Remains of coke oven or calcining kiln, north side of Scotswood Road, Lemington (copyright author).

Calcining kilns were used for the pre-heating of non-oxide ores to create iron oxides. These were then sent to the blast furnace. There is an excavated example of a calcining kiln at Allensford Furnace and nineteenth century examples survive at Brinkburn, Hareshaw and Ridsdale (Linsley and Hetherington 1978; Petts with Gerrard 2006, 96).

5.7 Steelworks

The firm of John Spencer and Sons Ltd. (NRO ZAN Bell 70/1-11; NRO 725/C2/148-9) was founded in the year 1810 by John Spencer who had been an apprentice in the Sheffield Steel Works, and afterwards was employed at the works of Crowley and Millington at Winlaton (Linsley 1992, 97). He began a steel file-making business in the Groat and Bigg Markets in Newcastle then in 1822 he moved to Newburn where the burn could provide water power for the grinding machines (TWAS 130/1581). John Spencer acquired land and a water driven corn mill (the grindstones of which apparently displayed the date 1500) at Newburn from the Duke of Northumberland, which he converted for grinding steel files (Armstrong 1973, 24). Parson and White's Directory of 1828 (page 425) describes the site as a hamlet called 'New Sheffield'. In 1824 Spencer's brother William became a partner, and in 1830 further land was

acquired. The expanding steelworks included a 30ft breast wheel, an ingot mill, forge, office, two mills, a spring factory, converting furnaces and a crucible plant (TWAS 2076/1). By 1845 a horizontal steam engine by Messrs. R. and W. Hawthorn had replaced the water wheel (Rippeth 1993, 13-14).



Fig. 117 This is the only remaining upstanding component of Spencer's Steelworks, Walbottle Road, currently used by a concrete manufacturer and recorded in 2004 (Tyne and Wear Museums) in advance of development (copyright author).

The works at first made springs and railway components such as buffers for railway wagons, smith's tools, axles and wheels then they diversified into steel plate. By this time the business had expanded into a site on the other side of the North Eastern Railway for the construction of its rolling mills, producing in 1904 the plate for the 'Mauretania'. By 1900 the steelworks had expanded to cover sixty acres and employed 1800 people. Spencers were the original manufacturers of volute springs under Bailloe's patent. Blister steel was made from Swedish iron bars in eight cementation furnaces (TWAS 2076/1). Pig iron came from Lemington and Wylam. Marine shafts and cranks were forged. The steel foundry was worked by overhead steam travelling cranes. The steel melting furnaces were heated by gas. The works made Wasteneys Smith's patent stockless anchors for H.M.S. Collingwood, and for the Cunard liners Campania and Lucitania (Gibson 1923; Charlton n.d).



Fig. 118 The physical impact of Newburn Steelworks extended beyond the buildings and chimneys. This view c.1920 (after Walton, 1990) shows that the works were served by a network of railway lines and sidings

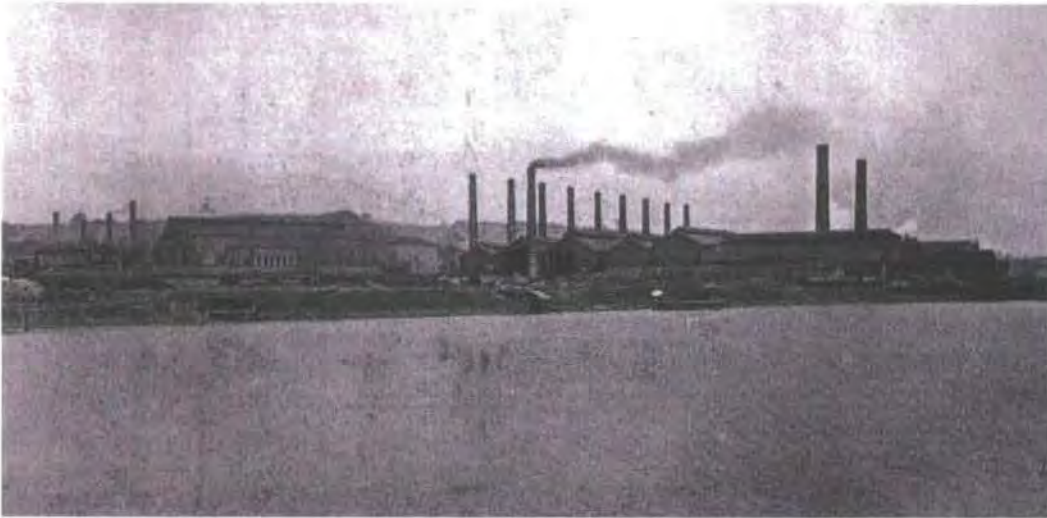


Fig. 119 The steelworks and rolling mills were an imposing feature in the landscape. This view is taken from the south side of the River Tyne (after Newcastle and Tyneside Sketches and Reviews, Newburn Library). It is instructive to compare this view with fig. 25 to show how industrialised the banks of the River Tyne had become.

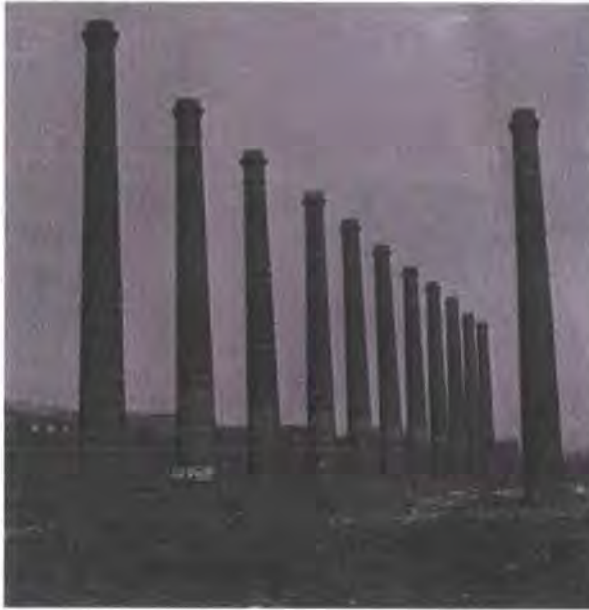


Fig. 120 Chimneys at Newburn Steelworks, demolished from September 1933, each was 130ft high (after Newburn Library). These structures would have been visible from miles around.

After a period of collapse - in 1925 the receiver was called in and everything in Newburn that Spencer's owned, including houses and shops, was sold, the business was revived by another J. Spencer in 1928 making railway axles and springs, then gun springs and barrels during World War Two. The company was taken over by Toledo Woodhead of Sheffield in 1960 before finally closing later in the decade (TWAS PA 303).

The physical and visual impact of the steelworks on the sleepy village of Newburn was immense (figs. 118 – 120). Industrial development on this scale changed the face of the farming and fishing village forever:

'The first Mr. John Spencer fixed upon the pleasant little village of Newburn, at the riverside... as a site for a manufactory to produce steel, and soon brought the hum of machinery into the rural seclusion of the neighbourhood' (Death of Mr. John Spencer, 29 April 1905, local biography Vol. 4, NLS).

Given the above photographs, it is hard to believe that during the nineteenth century the site is still described as 'a lovely nook, the adjacent foliage and vegetation being uncontaminated by the reason of the great height of the chimney stalks, and the abundant ventilation afforded by the Tyne valley'. This description differs greatly from Mackenzie's (1825) opinion of the polluted and dirty Bell's Close a few miles to the east.

Steelworking brought wealth and prosperity to the farming and fishing village of Newburn, and as will be discussed in chapter eight, Spencer totally transformed the built environment for the benefit of his workers. Employment opportunities increased the population and transferred Newburn from 'rural backwater to industrial town' (Dodds 1930, 151). Likewise, the eventual closure of the steelworks in the 1960s brought decline, depopulation, poverty and widespread unemployment to Newburn (Armstrong 1973, 25-26). Census figures for 1951 are 6,642 and for 1961, 4,267.



Fig. 121 Spencer's offices, Newburn High Street – in the background is one of the steelworks chimneys. The shaped gables echo the design of the Duke's almshouses (see chapter eight). (copyright Newburn Library).



Fig. 122 Spencer's offices in their wider setting next to the steelworks (copyright NCL, after Walton, 1990). This hardly looks like the 'lovely nook' described by Mackenzie in 1825.



Fig. 123 Spencer's offices are now occupied by MULTI LAB (copyright author).

The growth of the steelworks can be followed on maps and plans. There is a stark contrast between the farmer's fields on the plan of 1767 (fig. 220), a small cluster of industrial buildings on the tithe map of 1849 (fig 222), to the development proper of the steelworks from 1858 – 1921 (fig. 224-8). This industrial enterprise even expanded into the former medieval pele tower and hall, a pertinent symbol of industry's effect on the rural village. Today Spencer's office survives (fig. 123) and a stone building with arched fenestration, now used as a concrete works and tyre depot, still stands on Walbottle Road (fig. 117), but the main steelworks site itself has long been cleared and is presently in use as a haulage yard (Peters 2004). Archaeological excavation in 2005/6 revealed however that the foundations of the industrial complex survive below the yard surface, the most impressive survivals being the extensive brick-vaulted flue system (Tyne and Wear Museums, forthcoming).



Fig. 124 Excavation of Spencer's steelworks by Tyne and Wear Museums 2006 (copyright HER).

Chapter Six

Transportation by river and road

6.1 River Transport and Improvements

One of the most dramatic landscape changes visible in the map regression exercise is the changing course of the River Tyne. Newburn's prosperity was due to its location on the river. From the fifteenth century the Tyne was used for transporting bulky goods (Baker 1976, 237) such as timber, stone, lime, lead, grain and cloth (Cantor 1987, 164, 166-167) and coal was transported from the staiths up river to the coast to be loaded on to coastal colliers. River transportation was slower but much cheaper than moving goods by road (Cantor 1987, 168).



Fig. 125 River Tyne at Newburn (copyright author).

Before late nineteenth century river improvements the river was shallow enough to ford. In the mid nineteenth century there were in fact three fords – Newburn, Riding and Kelshaw and these are shown on the Ordnance Survey first edition map. At high tide the river was crossed by ferry. Robert Mydleton held the ferry in 1607 (AC A/i/3/1) and James Middleton after 1756 (AC B/vii/6). The last ferry was operated during World War Two (Rippeth 1993, 1). 'Ferry House' on the south bank of the river recalls this form of transport (City of Newcastle upon Tyne Community and Leisure Services Department, n.d., 11).

The Tyne however was shallow at Newburn, so shallow in fact that it could be forded at low tide (Bates 1895, 243; HER 1295) as discussed in the introduction. At low tide the river was shallow enough for a railway track to be laid across the river, the banks reinforced with iron slag from the Tyne Iron Works at Lemington (City of Newcastle

upon Tyne Community and Leisure Services Department, n.d., 11). Fish-garths and weirs already hindered the course of larger boats (Cantor 1987, 166). Of greater concern in the low-lying Newburn area were the floods which had on many occasions destroyed farmland and swept away houses and mills (Mackenzie 1825, 474; Armstrong 1973, 24). The New Burn meanders through Walbottle Dene and on 24th July 1796 (Whellan 1865, says 1786) the stream burst its bank when fallen branches blocked the arch of the waggonway bridge. The water destroyed a mill, three houses and killed three inhabitants at Newburn (Tomlinson, 1888; Whellan 1865). In 1808 Newburn Haughs was flooded and the crop of corn swept away (Mackenzie 1825, 479). On the wall of the pretty Boathouse Inn, near to the river in Newburn village, one can see the heights to which the floods of 1771, 1815, 1850 and 1852 rose (Adamson 1973, 12; fig. 126). Many rivers, including the Thames, Avon, Wey, Stour and Wye were deepened in the seventeenth century (Cantor 1987, 168) to make them passable to larger boats and presumably to reduce the risk of flooding. The Tyne however was not improved until the nineteenth century.



*Fig. 126 The heights of former floods at Newburn, shown on the wall of the Boathouse Inn.
(copyright author)*

In 1850, the year of a particularly bad flood, the Tyne Improvement Commission was set up. Extensive works to dredge the Tyne were undertaken in 1873 (NRO QRUP 127a). Stanners Farm on the north bank at Newburn suffered from floods until the river improvements (Dodds 1930, 152), as did Spetchells on the south side. Part of Stanners Farm was actually purchased from the Duke in order to widen the river (Dodds 1930, 152).

Between the sea and Hedwin Streams, the Tyne Improvement Commission straightened, diverted and contracted the river and constructed quays, walls, groynes and jetties (NRO QRUP/105a and b). The sand bar at the mouth of the Tyne was removed, the river channel deepened and widened, and docks and piers were constructed at North and South Shields (Smailes 1960, 175). Dredging operations at Newburn had several impacts – it removed Ryton Island and Dent's Meadow Island (AC O/xvii/11) and it prevented the fording of the river. A document of October 1847

describes the only building on Dent's Meadow, a timber hovel with tile roof in a ruinous state, tenanted by a Joseph Stokoe. The house lay within low water mark so was susceptible to flooding (NRO ZAN Bell 71/7; NRO ZHE 60/15). Comparing maps before and after the river improvement works (fig. 131; AC O/xvii/25, 27, 29; NRO QRUP/105a, b) demonstrates what a dramatic impact the work had on the landscape. One and a half miles west of Newburn, the Tide Stone (fig. 127) marks the tidal limit in 1783, showing how the course of the river has changed (Dodds 1930, 75; Brand 1789, vol. 2, 8).



*Fig. 127 The Tide stone marks the tidal limit in 1783
(copyright HER)*

River improvement work in 1876 reduced the Lemington Gut, the original course of the Tyne, to a dammed narrow water course. The River Tyne, as can be seen on historic mapping, originally made a large loop (The Crook) at Lemington and Blaydon Haughs, but the Commission straightened and shortened the river at this point to help boost Blaydon industry, making the Gut a 'backwater' (Grundy et al. 1992, 374; Tyne and Wear County Council Museums 1982, 16). The improvements could have had a terrible effect on Lemington staiths, but the river bed was kept continuously dredged while they

were in operation (Grundy et al. 1992, 374; Walton 1991). The spoil from dredging operations was deposited on Lemington Haughs (NRO ZAN Bell 69/3).



Fig. 128 Lemington Gut survives as a narrow water channel, but the former width of the river at this point, although silted up, is visible on this photograph. (copyright BKS Surveys 3036023, 27 March 1981)



Fig. 129 Lemington Gut was isolated by river improvement works and now exists as a very narrow water channel. It is now protected as a Site of Nature Conservation Interest and Local Nature Reserve (Newcastle City Council UDP policies NC1.2 and NC1.4). At the far end of the Gut the glass cone and power station are visible. On the right in the forefront of the photograph a short section of river retaining wall is visible (copyright author).

Once the river was deepened, it could no longer be forded. A bridge was now required and so in 1893 a steel lattice girder bridge was built at Newburn (Adamson 1973, 12; fig. 130). The toll bridge (Kelly's Directory of 1910 lists William Laidlaw as toll collector) was designed by Messrs J.W. Sandeman and J.M. Moncrieff of Newcastle (Tyne and Wear County Council Museums 1982, 16) and built by Head Wrightson of Thornaby on Tees. Newburn Bridge was actually the last bridge on the Tyne to be freed of tolls, in 1947 (Walton 1990, 18).



Fig. 130 Newburn Bridge, included on Newcastle City Council's Local List, provided a river crossing once the ford had been dredged away in 1876 (copyright author).

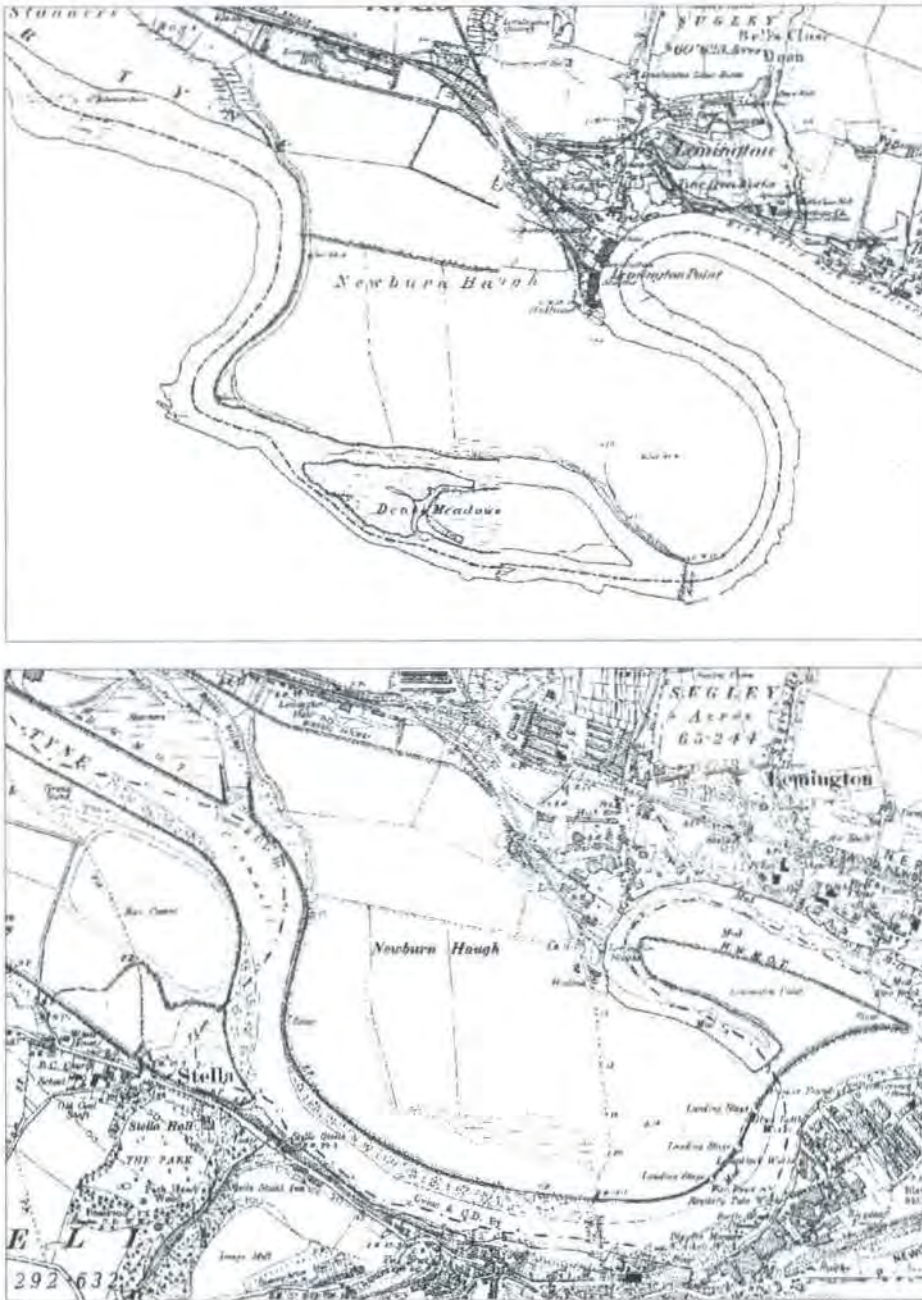


Fig. 131 The River Tyne at Newburn Haugh before and after river improvement works.

The top plan is the Ordnance Survey first edition of 1858. The river is sinuous and of varying width and it was too shallow for large vessels. A large island known as Dent's Meadow (see section 3.2) prevented free passage. At this time, Lemington Point and staiths lay directly on the bank of the Tyne. The shape of the river at this location led to this section being known as 'The Crook'.

The lower plan is the second edition of 1898. River improvement work had been undertaken in 1876. The Tyne Commissioners designed the river to be less sinuous, a more standard width and most importantly much deeper. Dent's Meadow was dredged away to enable free passage for large vessels. Of crucial importance to Lemington, the river was re-routed leaving Lemington Point isolated at the end of what became known as 'Lemington Gut'.

6.2 Roads

6.2.1 Medieval roads

As today, in the medieval period roads must have formed the backbone of transport system (Cantor 1987, 149). Pedlars (PG DDR/EJ/CCD/3/1758/5) or tinkers selling cloth, food and other commodities relied on roads for their trade (Cantor 1987, 161) and were important in the development of the early modern economy and commercialism (Spufford 1984). Goods were transported by teams of packhorses, the loads placed in two baskets on either side of a special saddle called a crook, or by horse-drawn two-wheeled carts (Cantor 1987, 151,153; Aston 1985, 138). Presumably in medieval times a track of some sort led from Newburn village to the ford over the River Tyne.

The roads shown on the 1620 plan of the manor (AC O/xvii/1) could potentially be of medieval origin, such as the wide curvilinear routes into Throckley and Walbottle villages. These had mostly been removed by the eighteenth century. Two sections of the present section of Newburn Road, which now links Throckley to Newburn village, lie on the line of a track present in 1620 (fig. 218). The road leading from Butterlaw village to a field named Birks Close survives in part as a farm track (fig. 198). In Newburn Hall, Hospital Lane (fig. 132), which until recently linked Lemington Hospital, now demolished, to Newburn village, certainly has an early origin. On the 1620 map (AC O/xvii/1; fig. 232) this routeway linked John Snowdon's House to Newburn. Sunken and with relatively steep sides, this road even in its modern form is reminiscent of a holloway. Newburn High Street was the village green in 1620 and Millfield Lane (fig. 133) existed.



Fig. 132 Hospital Lane, Lemington (copyright author) is a sinuous single track road which has been in existence since at least 1620 (AC O/xvii/1) and is still sunken in places. (copyright author)



Fig. 133 Millfield Lane is also shown on the manorial plan of 1620 (AC O/xvii/1) This is the grand entrance to the nineteenth century Millfield House, which is discussed in chapter eight (copyright author).

A wide and sinuous trackway in 1620 linked John Snowdon's House to Henrik's House and 'Lamendon' (fig. 232). This has evolved into today's Union Hall Road and the way north from Snowdon's property is now Hillhead Road. At Throckley, the main thoroughfares in and out of the village had been removed by 1767, but a route leading southwards from the Fell survives in part as Ponteland Road. Later roads such as Coach Lane (fig. 134), respect field boundaries shown on the 1620 map. Walbottle Road originated as the routeway from 'Newburne Walbottle and Butterlaw Comon' to

Walbottle village (fig. 261). Queens Road which leads to Walbottle Hall existed in part in 1620.



Fig. 134 Coach Lane, Throckley looking south (copyright author). This hedge-lined road was constructed between 1858 and 1898 linking Isabella Pit to the turnpike road, but it follows the course of field boundaries shown on the 1620 plan (AC O/xvii/1).



Fig. 135 Narrow lane linking Newburn High Street to the parish church – it would have once led to the village green (copyright author). The stone wall is the boundary of the churchyard. The church, as discussed in chapter eight, is early Norman in date, possibly on the site of an earlier church and so the road pattern and boundaries around the church could well be of a very early date (Rodwell 1981, 43).

One of the most interesting survivals is a single-track curiously winding hedge-lined lane leading north out of Throckley, known as Drove Road (fig. 136). It is shown on the plan of the manor of 1620 (AC O/xvii/1; fig. 246) and subsequent mapping. Its name (droving is the practice of moving cattle over very great distances), form and orientation suggest that it may have originated as a medieval or earlier driftway for leading

livestock to and from Throckley Fell. A document of 1250 describes the 'lead waye' to the waste (SH J/vii/4a). Alternatively the way might have been used for driving cattle from the Scottish highlands to the meat markets in Newcastle and the south (Rushworth, Roberts and Carlton 2005, vii). Gillian Keegan-Phipps (University of Durham) is currently researching roads, including drove roads, in the north-east but her study area does not overlap with this one. The 1620 map shows the road as very wide. Drove roads, often nothing more than green ways delineated by parallel banks, were wider than packhorse ways, up to 28m wide (Rowland 1973, 146-147; Cantor 1987, 154; Cowper 1970-71). The road was narrowed to its present width at some point before 1805 (NRO 691/1/19; fig. 250). A Roman surface was recorded in excavations in 2002 near Drove Road's junction with Hexham Road in advance of installing renewed water mains. Frain (2002, 15) suggests that this road could have an even greater origin, perhaps representing the former course of a Roman road or track leading through the milecastle on Hadrian's Wall at this location.



Fig. 136 Drove Road, Throckley (copyright author)

This sunken roadway is shown on the plan of the manor of 1620 (AC O/xvii/1) it probably linked Throckley village and the Fell

In the medieval period the roads in the study area would have been very inadequate and basic in nature, probably riddled with ruts and potholes in bad weather (Reed 1990, 269). They would have had no proper surface, nor solid foundations, and were little more than cross country tracks (Cantor 1987, 21; Patten 1979, 33) linking villages, hamlets and towns to the farmland, commons and woodland (Cantor 1987, 66, 155; Rackham 1986, 263; Roberts 1987, 120). The roads would have been up to 18m wide, incorporating verges which travellers could use if the roads were impenetrable (Williamson and Bellamy 1987, 105). The villagers were responsible for 'maintaining' the roads (in 1555 the first General Highways Act made it the responsibility of the parish, Cantor 1987, 158) until the liability fell to the landowners or towns, and the eventual decline in the manorial system led to a decline in care (Cantor 1987, 152). Under Elizabeth I new eight-horse four-wheeled wagons were introduced but the roads were incapable of coping with these heavy vehicles and so in 1630 Charles I tried to ban them (Cantor 1987, 160-161). Given the state of the roads the advantage of water transport for heavy goods is clear to see (Patten 1979, 34; Cantor 1987, 21).

6.2.2 Turnpike and toll roads

The poor condition of the roads meant that in 1745, during the Jacobite rebellion, Field-Marshal Wade found it impossible to move his artillery, part of the Royal army, from its base in Newcastle to a besieged Carlisle (Northern Counties Archaeological Services 2001). Four years later, as part of a wider programme of military road construction by Wade in Scotland and the north-east (Rackham 1986, 272), the line of a new toll road from the West Gate in Newcastle to Carlisle was surveyed, and within the study area it survives as Hexham Road (figs. 137, 139; Newton 1972, 223; Rowland 1973, 147-8). The turnpike was completed in 1752-3 and was the first properly constructed road in Northumberland since Roman times (Rounthwaite 1949, 151). A milestone (fig. 138) survives on Hexham Road at Walbottle, set up around 1780 (HER 4963).



*Fig. 137 General Wade's Military Road, the Newcastle to Carlisle toll road, built 1752-3, now Hexham Road, looking east towards the former Engine Inn and Hawthorn Terrace, Walbottle.
(copyright author)*



Fig. 138 Eighteenth century milestone on the Newcastle to Carlisle toll road, listed grade 2 (7/33). It is inscribed '53' [miles to Carlisle] on one side, '5' [miles to Newcastle] on the other and has an eroded Newcastle coat of arms on the western face (copyright author).



Fig. 139 Cary's road map of 1789 shows the route of the Military Road west out of Newcastle, past Denton Hall and Chapel Hill. The position of the Walbottle milestone is shown as a '5' (copyright NRO ZAN M16/B21).

Improvement of the communications system was essential to allow the region to embrace the advances brought about by the Industrial and Agricultural Revolutions (Hill 1967, 204; Rowland 1973, 147-8). Tolls for paying for road repairs had been allowed since an Act of Parliament in 1663 (Cantor 1987, 162; Jones 1996, 403). A toll house and gate, where the levy was collected, is shown at Throckley on the Ordnance Survey first edition map. Private companies, individuals or Turnpike Trusts now paid for road maintenance. In the eighteenth century, Parliament passed further Acts for improving roads (Rackham 1986, 272). Turnpikes, built of compacted stone and drained by ditches, were of a predetermined width of under 14m because verges were no longer necessary (Williamson and Bellamy 1987, 105). Tarmacadam was invented in the late eighteenth century (Patten 1979, 35; Cantor 1987; 178).

Eighteenth century turnpikes often used existing routes (Hoskins 1955, 246). In the case of the Newcastle to Carlisle turnpike, most of the eastern section of road, from Heddon-on-the-Wall to Newcastle used Hadrian's Wall as a foundation, hence its particularly straight course. The use of the Roman Wall has resulted in the unusual situation of a 'modern' carriageway being designated as a Scheduled Ancient Monument, which today causes all manner of problems when utility companies need to install services. The antiquarian William Stukeley was said to have bitterly protested about the road being built upon the Roman monument (Collingwood Bruce 1805-92).

This was also a medieval routeway, documented in the twelfth century and important enough to merit a gate 'the west gate' in the thirteenth century town walls (Bourne 1736, 49-50; Gray 1649, 7-8). The route is shown on John Ogilby's road map of Britannia of 1675 (Cantor 1987, 163).

Wrathmell (1975, 243) describes how Harlow Hill, which lies a relatively short distance from Throckley, was enlarged with the construction of the military road of 1751 into a coaching village, but it subsequently declined as traffic just passed through. The effect of the road on Throckley was equally significant in that it was undoubtedly at least partly responsible for a settlement shift. Before the turnpike was built, as has been discussed, east to west links were poor and whilst Throckley could be accessed by a track from the east, there was no western road in or out. In addition, the village lay to the south of Hadrian's Wall. Field boundaries of 1736 (NRO Sant/Beq/9/1/1/34; fig. 248) and a north-south track or driftway leading out of the village towards Throckley Moor, respect the line of the Roman Wall, suggesting that the Roman monument acted as a physical barrier preventing a hindrance-free north-south route into and out of the village. The reason for the final demise of the village is not certain, but the fact that in the mid nineteenth century the village still lay isolated to the south of a main routeway into Newcastle, which would provide access for traffic from the west, east and north (NRO DT 448 M) cannot have helped. As discussed in chapter four, the emergence of the sandstone quarry at the heart of the village was the final nail in the coffin for old Throckley, and from the Ordnance Survey first edition of 1858 (fig. 252) Throckley began to develop as a strip development along the turnpike route. The site of the medieval settlement effectively shrank to a couple of cottages.

6.2.3 Enclosure period roads

The plan of the Lordship of Newburn 1767 (NRO Sant/Beq/9/1/1/24) demonstrates that much of the existing road network in the study area probably dates to the eighteenth century and is presumably linked to enclosure.

For instance Whorlton Lane (fig. 140) was set out as a routeway between 1620 (AC O/xvii/1) and 1767 (NRO Sant/Beq/9/1/1/24; fig. 201). The peculiar twists and turns in this narrow way which links Stamfordham Road to Whorlton Hall to Butterlaw, can be explained in that it follows the field boundaries shown on the 1620 map. The right angled bend as the road reaches Butterlaw Farm could well be where the original field boundaries skirted around the village and green. The early generation of enclosures by agreement often had narrow winding roads which zig-zagged around former headlands (Roberts 1977a, 189; Hoskins 1955, 200–204).



*Fig. 140 Whorlton Lane looking west from Butterlaw Farm
This sunken routeway was set out by 1767 (NRO Sant/Beq/9/1/1/24) following earlier field boundaries
(copyright author).*

Stamfordham Road, shown as the road from Dissington to Newcastle on the map of 1710 (AC O/xvii/2; figs. 141, 277), respects the western boundary of Anthony Errington's Meadow shown on the 1620 map (AC O/xvii/1). In 1710 the road crossed the Ouse Burn via a bridge which coincides with today's Lough Bridge (fig. 142). On the same map 'the coal way' marks the same position as Hillheads Road and the lane into Whorlton Grange (fig. 143).



Fig. 141 Stamfordham Road, looking east from Lough Bridge. This is shown as the Dissington to Newcastle road on the map of 1710 (AC O/xvii/2). The stone house on the right is the former Swan Inn shown on Ordnance Survey first edition of 1858 (fig.276). This coaching inn would have provided food and accommodation for travellers. (copyright author)



Fig. 142 Lough Bridge on Stamfordham Road, Callerton – probably nineteenth century in date (it is shown on Fryer's map of 1820) but it is on the site of an earlier road crossing (AC O/xvii/2). (copyright author)



Fig. 143 This lane which leads from Stamfordham Road into and out of Whorlton Grange is shown on the map of 1767 (NRO Sant/Beq/9/1/1/24) (copyright author).



Fig. 144 This un-surfaced agricultural track which links Cutty Coats to Fell House Farm, Walbottle is also shown on the 1767 map (NRO Sant/Beq/9/1/1/24). (copyright author)

Whilst some of the early sinuous lanes were retained, brand new enclosure period roads were created alongside, and are typically straighter and narrower than their medieval antecedents. Examples include the present road to Newburn Grange Farm (fig. 145). In Throckley the new roads built between 1736 and 1805 (NRO Sant/Beq/9/1/1/34-37; NRO 536/1-2) are characteristic of the roads typically created by later enclosure, very straight (Newton 1972, 127-128; Reed 1990, 244) and set out at right angles to one another. These roads would have been solid and weatherproof (Hoskins 1955, 113). The access road to Dewley Farm was laid out by 1848 (NRO DT 342 M; fig. 214) but it respects the field boundary on the 1767 map (NRO Sant/Beq/9/1/1/24; fig. 212).



Fig. 145 The road to Newburn Grange Farm actually pre-dates the farm and was built to link the Wylam Waggonway to Newburn Road, which itself was laid out by 1767 (fig. 220) utilising an earlier route. The road is now little more than a farm track and is a public footpath (copyright author).

Travellers on the road system were served by hotels, inns and smithys (Newton 1972, 228; Rowland 1973, 149). One of the most picturesque public houses in the Newburn area today is the Jingling Gate (fig. 146), which is shown on Stamfordham Road on the outskirts of Whorlton in 1847 (NRO DT 509 M; fig. 281). Whellan's Directory of 1855 lists the occupier as William Hogg, blacksmith and agricultural tool maker. The Ordnance Survey first edition of 1858 shows a smithy attached to the pub.



Fig. 146 Jingling Gate Public House, Stamfordham Road (copyright author). Located on a major routeway into Newcastle, the public house would have provided welcome refreshment for travellers and stabling and blacksmith's facilities for their horses.

6.2.3 Modern roads

Twentieth century road construction has impacted considerably on the study area. The A69 dual carriageway removed the former township boundary between Dewley and Newburn and has destroyed the site of a cluster of nineteenth century buildings which may have been built on the same spot as the medieval village. In Throckley the same road has isolated the former Fell from the rest of the township and it destroyed an enclosure period road which linked Black Row to Dewley Farm, leaving the latter isolated. Open fields and a stretch of the eighteenth century toll road were the casualties of road building in Walbottle and the A696 has cut through former pastureland at Whorlton.

Chapter Seven

Waggonways and Railways

7.1 Waggonways

Waggonway and railway construction have had a significant visual and physical impact on the rural landscape. Until the introduction of wooden waggonways coal workings generally were located in close proximity to river transport as the coal could only be moved by cart or 'wain' or packhorse (Guy 2003, 8; Lewis 1970). It should be remembered that there were no canals in the north (Rowland 1973, 166), although a canal from Newcastle to Haydon Bridge passing through Newburn, Walbottle and Throckley was proposed in 1796 (NRO QRUP2) but never built.

These waggonways or 'Newcastle Roads' (Morriss 1999, 21), which came into general use around 1670, had a varying gauge and were built of timber with rails 4 inches square attached to wooden sleepers (Ayris, Nolan and Durkin 1998; Dodds 1930, 32; Poole and Raistrick 1949, 87). They allowed coal from further afield to be transported to staiths on the river.

Waggonways revolutionised the transportation system. The earliest definite reference for a waggonway is that of 1603 at Wollaton, Nottinghamshire (Guy 2003, 9; Morriss 1999, 19; Nef 1966, 1, 24). Possibly as early as 1605 Huntingdon Beaumont, who worked the pits at Wollaton, built waggonways from his pits in Northumberland at Bedlington, Bebside and Cowpen to the River Blyth (Guy 2003, 9; Rowland 1973, 165-166; Hoole 1986, 12; New 2004; 2-3). The Whickham Grand Lease Way at Dunston, part of which is a Scheduled Ancient Monument (SAM 30928) also employed rails around 1621 (Guy 2003, 9).

Some of the earliest waggonways were developed in the Newburn area (Armstrong 1973, 16) and they all terminated at Lemington Staiths (NRO ZAN Bell 44/10). 'A staith for coal' is shown at 'Lamendon' on the 1620 plan (AC O/xvii/1; fig. 232) and it is mentioned in the Duke's manuscripts of 1638 (Dodds 1930, 150). Fragmentary remains of the wooden staiths and faint traces of the former waggonway routes can still be seen at Lemington (Grundy et al. 1992, 374). In 1620 the staiths were probably no more than a simple staging on the riverbank (Jones 1996, 355). By the nineteenth century the coal chutes at Lemington may have resembled the general description of staiths given by Fordyce (1860, 59): 'a lofty, strong open timber framing projecting into deep water'. At the staiths, the coal was loaded onto keels, and transported downstream to colliers. It is interesting that the Tyneside staiths were amongst the earliest in the country and that the word 'staith' is of Scandinavian or German origin (Jones 1996, 355) which ties in with the name 'Henrik' at Lemington, which may be linked to invited workers bringing technology from Germany (see section 2.4).

There were several waggonway routes within the manor. These are shown on fig. 97 in chapter four and are summarised in the following table:

Waggonway	Date	Description	Ref	Extant?
Wylam Waggonway Figs. 147-149	1748	Five mile long route linking Wylam Colliery with Lemington staiths, built possibly to the design of William Brown of Throckley for John Blackett. Built to a gauge of 5ft and originally had timber rails attached to stone sleepers at 18 inch intervals. The timber rails were replaced with iron plate-way rails in 1808. The location of a successful early attempt to use steam as power on railways and many of the important early locomotive experiments, notably those of Thomas Hedley in 1813. William Hedley built at least three engines for the Wylam Waggonway - the 'Old Duchess' (now in South Kensington Museum), 'Puffing Billy' (now in Science Museum in London) and the 'Lady Mary' (scrapped) and these engines continued in use until 1862. 1827-30 the old iron plate-way was replaced with cast-iron fish-bellied rails. The tramway fell out of use in 1868 when Wylam Colliery closed. July 1875 the route was incorporated into the Scotswood, Newburn and Wylam Railway (later North Eastern Railway Newburn and Wylam Branch). Colliery waste was dumped directly over the old waggonway, after the ironwork had been dismantled, to create a railway embankment. An archaeological evaluation at Wylam (Brogan 2004) demonstrated that the form of the waggonway – the arrangement of stone sleeper blocks - is still preserved below the bridleway. An eighteenth century masonry skew bridge (fig. 149) which once carried the waggonway over the New Burn survives on a public footpath at Newburn.	Brooks 2003; Liffen 2006, 51; Tomlinson 1915, 24-25; HER 1032 and 1033; Brogan 2004; Ayris and Linsley 1994, 8	Yes - worked until 1968 now bridleway and road
Throckley waggonways Figs. 150, 157	C18	Throckley's early coal pits were also served by a whole series of waggonways. They are shown on a series of eighteenth century plans along with Lemington staiths and Mr Brown's engine. A further complex of waggonways at Throckley is shown on a plan which is supposed to date to 1713 but it shows the Military Road which was not built until 1751. Two waggonways served Thistle Pit on the western boundary of Throckley township. Another linked New Engine to Andrew, Dayhole, Duke, Pea and Corner pits. Some of the waggonways seem to link the pits to the military road such as that which served Meadow Pit. These waggonways are not shown on the first edition Ordnance Survey map of 1858 and presumably they were out of use by this date. Nothing of the Throckley waggonways can now be seen above ground. However an evaluation trench was cut across the line of the waggonway which served Hill Pit in July 2002 (Pre-Construct Archaeology 2002). This showed that the waggonway started life with a low-lying trackbed cut into the natural subsoil with an upcast bank on the eastern side and a fenceline and ditch to the west. The second phase of the waggonway involved the creation of a broad embankment at least 4.20m wide and 0.40m high with a ditch at one side (Pre-Construct Archaeology 2002). A subsequent watching brief recorded ten groups of sleeper impressions, showing that the single track wagonway diverged into a fan of sidings leading to Hill Pit (Pre-Construct Archaeology 2003).	NRO Sant/Beq/9/1/1/24, 37; NRO ZAN Bell 45/1; NRO 536/1; NRO 536/2; HER 1958; The Archaeological Practice 1992, 4; Pre-Construct Archaeology 2002, 2003a; Northern Counties Archaeological Services 2001; NRO 3410/Wat/2/10/3; NRO 3410/Wat/2/10/227; NRO 3410/Wat/2/11/135	Yes – a couple survive as footpaths
Dewley waggonways Fig. 212	pre-1767	Ran through Dewley past Fell House, Walbottle to a dyke near Coally Hills Farm.	NRO Sant/Beq/9/1/1/24, 25, 29	No

Waggonway	Date	Description	Ref	Extant?
Butterlaw waggonway Fig. 201	pre-1767	Ran from Throckley, Newburn and Walbottle through Butterlaw to Callerton Engine	NRO Sant/Beq/9/1/1/24, 25, 29	No
Holywell Reins Waggonway Figs. 158, 265, 279	pre-1767	Ran from Callerton, through Whorlton and Walbottle to the staiths. Closed by 1800. A section of it was re-used in c. 1827 for the inclined plane from Coronation Pit. Closed 1867. Line re-used again by North Walbottle Colliery in 1892.	NRO Sant/Beq/9/1/1/24, 25, 29, 30; OS second edition 1898; Ayris and Linsley 1994, 8	Yes - central section is a track
Walbottle Moors Waggonway Figs. 153-156, 270	1769	Developed by the Duke for the exploitation of his mines. It comprised of four lines to Greenwich Moor Pit, Walbottle Moor Pit and Holywell Main Pit which joined at Cut End and then ran to Lemington staiths. The waggonway was short-lived and entirely pre-steam. Fell out of use by 1820 except for a re-used stretch used to link Duke Pit to the staiths. This closed in 1968 and at that time was the last self acting incline in Northumberland (HER 3932). The nineteenth century tunnel which carried the waggonway under Hexham Road was found during a watching brief at Blucher (Archaeological Services Durham University 2003). Its significance is its connection with George Stephenson, who as a boy was paid by Grace Ainslie of Dewley Farm to keep cows off the waggonway. Those parts of the waggonway which were not overlain by railways are well preserved. North of the study area at Callerton the waggonway embankment is protected as a Scheduled Ancient Monument (SAM 30923). Here the waggonway overlies an area of ridge and furrow, which clearly demonstrates the impact of industry on the earlier agrarian landscape. Within the study area extensive remains of earthwork embankments and cuttings survive in the fields still under pasture but elsewhere, ploughing has destroyed the remains. The junction point at Cut End is visible in the grassland. Nothing survives of the bridge which must have carried the waggonway over the Dewley Burn, but a stone culvert which carried the route over a gully is still extant (The Archaeological Practice 1996b, 12). Today the line is a public footpath.	Casson 1804; Warr 1976; HER 4271; Armstrong 1973, 18-19; Tomlinson 1973, 93-94; The Archaeological Practice 1996, 12; AC O/xvii, 17; NRO 3410/Wat/2/7/57; Ayris and Linsley 1994, 8; Archaeological Services Durham University 2003	Yes - public footpaths and earthworks
Newburn waggonway Fig. 220	pre-1771	This linked Ann Pit and Engine Pit to the staiths, crossing the New Burn by a bridge. The plan of 1771 shows waggonways to Lemington staiths labelled 'partnership bye way' and 'main way', Throckley bridge, Billy Pit Waggonway, engine branches, a raff yard and another Anne's Pit.	NRO Sant/Beq/9/1/1/31; AC O/xviii/17; AC O/xvii/4/1	Yes - as Grange Road and trackway

Table 15: Documentary and cartographic evidence for eighteenth century waggonways in the study area



Fig. 147 The Wylam Waggonway of 1748 is now a bridleway linking Newburn Riverside Park to Wylam village (copyright author). An archaeological evaluation (Brogan 2004) demonstrated that the form of the waggonway – the arrangement of stone sleeper blocks - is still preserved below the bridleway.



Fig. 148 Further to the east, it survives as a road from Newburn Riverside Park to Newburn village. The hedgerow which borders it to the north is suggestive of the type of thorny boundary typical of waggonway routes (copyright author).



Fig. 149 Eighteenth century skew bridge, which carried the Wylam Waggonway over the New Burn, Locally Listed (copyright author).



Fig. 150 This footpath was the eighteenth century Throckley Waggonway which came to link the Isabella Colliery to the Wylam Waggonway. On the adjacent plan the Throckley Waggonway is the northernmost red line, with the Wylam Waggonway below. To the north shown in green, the modern boundary of the housing estate at the base of Hallow Hill originated as a nineteenth century mineral railway (copyright author).

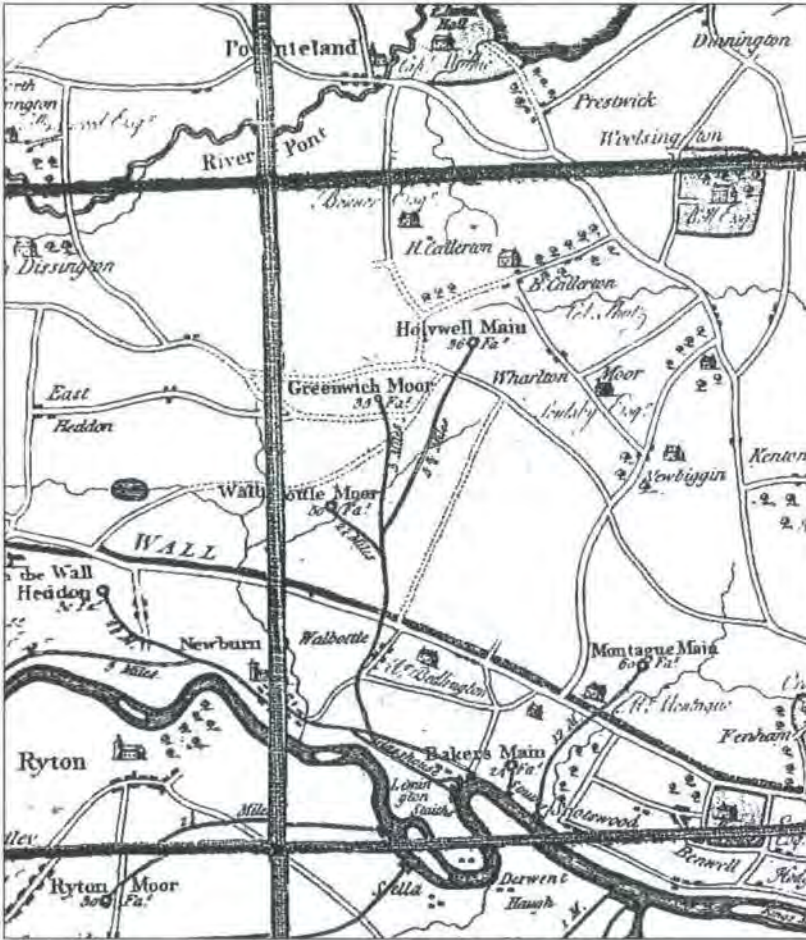
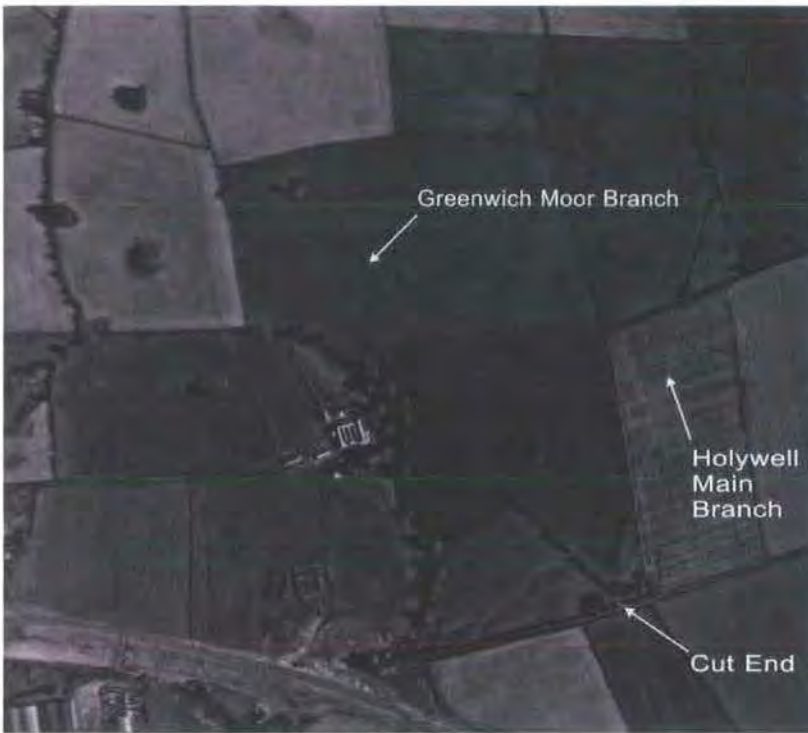


Fig. 151 A section of Gibson's plan of the collieries of the rivers Tyne and Wear 1787. This is one of the most instructive illustrations of the complex of collieries, staiths and waggonways. It shows the three branches of the Walbottle Moors Waggonway and the Wylam Waggonway, all terminating at Lemington staiths (copyright NRO 336).



Fig. 152 Casson's map of 1804 also shows the waggonway systems and Lemington staiths. The map also shows Pigg's Hall, which is discussed in chapter eight (copyright NCL).



*Fig. 153 The earthwork and cropmark remains of the 1769 Walbottle Moors Waggonway are clearly visible on this aerial photograph – the two branches meet at Cut End.
(copyright Fairey Surveys Ltd 5640, 27 August 1974)*



*Fig. 154 Earthwork remains of part of the embankment of the Holywell Main Branch of the Walbottle Moors Waggonway, north of Cut End. These remains have survived because the land has remained as pasture.
(copyright author)*



*Fig. 155 Walbottle Moors Waggonway north of Fell House Farm
The route, still a public right of way, is clearly marked by the vegetation cover.
(copyright author)*



*Fig. 156 The straight boundary between Walbottle Campus and the allotment gardens is the course of the
Walbottle Moors Waggonway, preserved here as a track (copyright R&I 10591057, 7 September 1991).
The route has been broken by the A69 dual carriageway, but in the ploughed field to the north of the road,
it continues as a dark linear soilmark.*



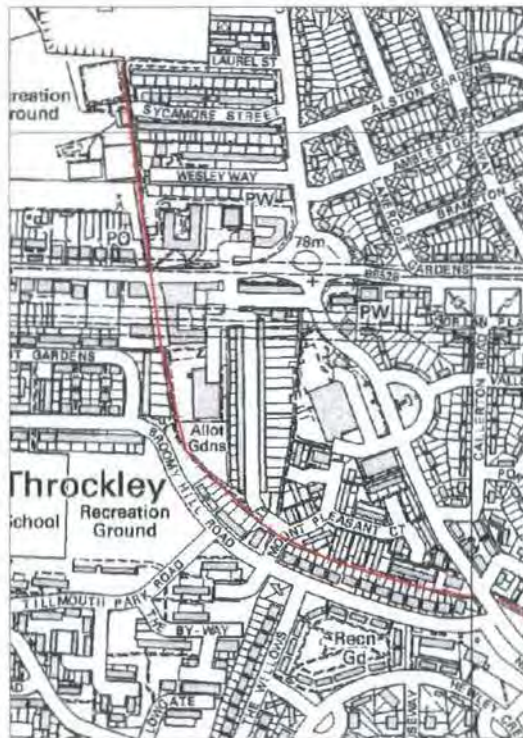
Fig. 157 This track beside Throckley South Farm is the line of an eighteenth century waggonway. Its course is shown on the adjacent map.



Fig. 158 North Walbottle Waggonway – set out in part in the eighteenth century as the Holywell Reins Waggonway and reused by Coronation Pit and North Walbottle Colliery in the nineteenth. It survives as a public footpath through the centre of the modern housing estates (copyright author).



Fig. 159 The waggonway from Maria Pit (and later Throckley Brickworks) was in use throughout the eighteenth and nineteenth century. The route survives as a public footpath through the housing estates. These photographs have been taken near to Orchard Terrace (next to the allotment gardens shown on the plan below) (copyright author).



The topography of the north-east coalfield was ideal for the waggonway system. Wagons loaded with coal were sent along the rails down gentle gradients, the speed controlled by hand brakes, to the staiths on the banks of the Tyne, such as those at Lemington, where the coal was loaded onto ships. The empty wagons were then pulled back up the slope by horses (Cantor 1987, 171-172; Guy and Rees 1998). Cast iron

rails were introduced from the end of the eighteenth century (Dodds 1930, 33; Raistrick 1972, 53).



Fig. 160 The route shown on the left is the nineteenth century diversion of the eighteenth century Holywell Reins Waggonway at Blucher. The photograph on the right is the nineteenth century west-east waggonway which linked the North Walbottle line to the Walbottle Moors Waggonway (copyright author).



The Blucher diversion is shown on the right-hand side of this plan as the green north-south route. The linking route is the west-east route also shown in green on the plan below. The surviving sections of eighteenth century line are shown in red.

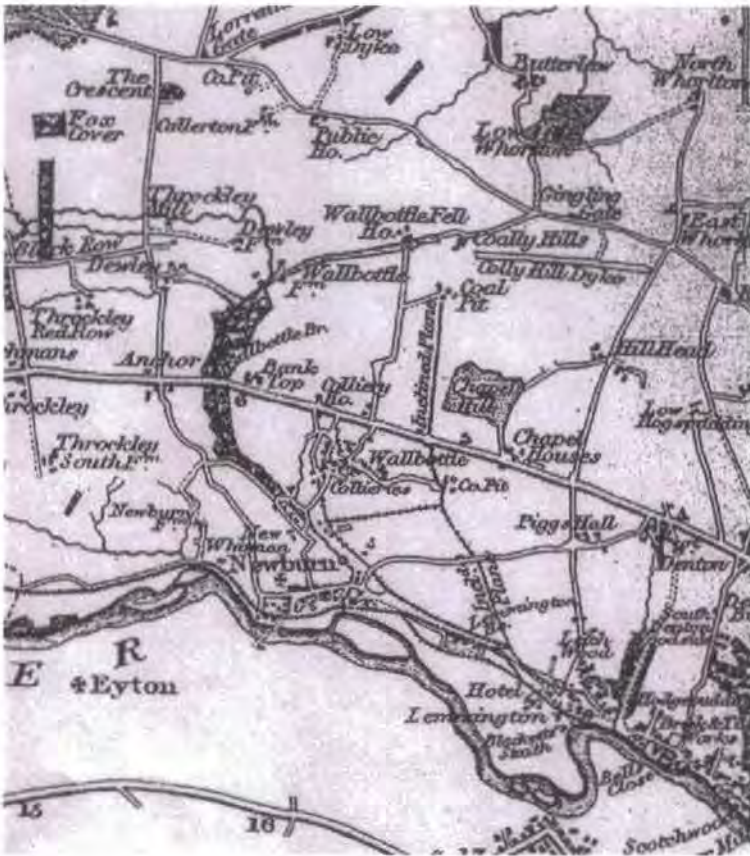


Fig. 161 Greenwood's map of 1827 shows these lines as inclined planes. These served Coronation and Blucher Pits and linked to Walbottle Moors Waggonway, Wylam Waggonway and the staiths.

The waggony way system transformed the countryside, carving new routeways through the landscape. These 'Newcastle Roads' were cut through country lanes, hedges and agricultural fields (Reed 1990, 303-305), as can be seen only too clearly where the Walbottle Moors Waggonway lies alongside ridge and furrow earthworks. Even where the routes were short-lived, physical evidence remarkably survives in the form of earthworks and many of the routes are visible as cropmarks on aerial photographs.

7.1 Railways

In 1871 a Parliamentary Act authorised the construction of the North Eastern Railway (NER) Scotswood, Newburn and Wylam Branch (AC O/xvii/30). The line joined the Newcastle and Carlisle Railway on the south side of the river via a bridge at Wylam.

The railway was opened between Scotswood and Newburn in 1875 and extended by a single line to Wylam in 1876, partly reusing the line of the Wylam Waggonway, which was subsequently widened (NRO Sant/DEE/1/37/43). Among the sponsors of the project were members of the Spencer family who owned the large steel works in Newburn, William Stephenson, one of the owners of Throckley Fireclay Brick and Tile Works and one of the collieries at Throckley, and Thomas Bates who owned Heddon Colliery and Brickworks, who needed better transport links (Hoole 1986, 197-9; HER 4292). The railway also carried passengers, with stations being built at Newburn and Lemington and Scotswood (Rippeth 1993, 72). Newburn Station closed to passengers in 1958 and closed altogether in 1965 (NMR NZ 16 NE 138). Lemington Station closed in 1959-60 (TWAS UD/Nb/20/8). The line survived until 1968 (Ayris and Linsley 1994, 8) and the stations have been removed.

From Wylam to Newburn the line survives partly as a road (fig. 148), partly as a public footpath (fig. 162), and on this path immediately adjacent to the eighteenth century skew bridge (fig. 149) of the Wylam Waggonway, is the bridge of the Scotswood Newburn and Wylam Railway.



Fig. 162 South of Newburn Village, the course of the Wylam Waggonway, later NER Scotswood, Newburn and Wylam Branch, survives as a footpath running parallel with the River Tyne (copyright author).



Fig. 163 At Lemington, the North Eastern Railway, Scotswood, Newburn and Wylam Branch also survives as a public footpath (copyright author).



Lemington Hotel

Newburn Hotel

Fig. 164 The coming of the railway to Lemington and Newburn brought an influx of visitors who required overnight accommodation. This was provided by the Lemington Hotel, run by a Joseph Sparkes in 1910, and converted into apartments in 2006 and the Newburn Hotel, which was built on Grange Road in circa 1910, perhaps by Spencer's. Thomas Yelloly is listed as occupier in Kelly's Directory of that year.

Ordnance Survey maps (fig. 240) show that the NER, which served the steelworks, glassworks and collieries via sidings, cut through the heart of Newburn village, destroying the setting of Newburn and Lemington Halls. Earlier waggonway routes,

once they had reverted to agriculture, such as the Throckley examples, have left little trace on the surface, but archaeological excavation, such as that undertaken at Lambton (Ayriss, Nolan and Durkin 1998), Throckley (Pre-Construct Archaeology Ltd 2003a, fig. 165) and Rainton Bridge (Glover 2005) can teach us much about the construction techniques and phases of development of these early tramways. The rails were removed when the line went out of use and the embankments often truncated, but where archaeological evaluation has taken place, as at Wylam (Brogan 2004), the original trackbed and the stone blocks which once held the sleepers in place, often survive. As demonstrated by the photographic record, public footpaths in the study area largely derive from former waggonway and railway routes.



Fig. 165 Section of eighteenth century waggonway leading to Hill Pit, Throckley. The excavation at Throckley Middle School was undertaken by Pre-Construct Archaeology in 2003. The timber sleepers had not physically survived, but impressions of the parallel trackside ditches and linking sleepers are clearly visible (copyright HER).

Chapter Eight

Settlement and Buildings

As the map regression exercise (see volume 2) has shown, urban and industrial development has taken its toll on the countryside of the study area. As will be discussed here, the influence of agricultural change, industry and the spread of suburbia have inflicted a varying impact on the building history in Newburn and on what structures have survived to the present day. A photographic record accompanies this chapter and is presented in volume two.

Early historic buildings have, not surprisingly, been the worst casualty of landscape change.

8.1 Medieval settlement and buildings

There are no medieval villager's dwellings still standing today in the study area. Archaeological excavations such as that undertaken at the deserted village of West Whelpington in Northumberland (Evans and Jarrett 1987) give an indication of what the medieval houses in the study area might have looked like. Several phases of houses were recorded at West Whelpington. The earliest were built of timber on stone foundations with a thatched roof and single hearth and they accommodated both people and cattle (Evans and Jarrett 1987, 292). Some of the period one houses, were later replaced by larger and more substantial longhouses, which utilised clay-bonded whinstone to eaves level and had a cross-passage separating the living quarters and byre. Some of the longhouses had glazed windows (Evans and Jarrett 1987, 294-5). Later still the longhouses were replaced by steadings where the living space and byre were separated by a solid stone wall. These houses were 32% bigger and better built (Evans and Jarrett 1987, 295). The last phase of houses had clay floors and selected byres had paved floors (Evans and Jarrett 1987, 297). A lower class of dwelling in the

form of one-room cottages were also excavated along with stables, barns, cart sheds, threshing floors and other outbuildings (Evans and Jarrett 1987, 297-299).

Although no medieval buildings have been identified, the cartographic morphology of the villages in the study area is suggestive of a medieval layout. Early historic mapping (such as AC O/xvii/1 of 1620) suggests that at Throckley (fig. 166) and Newburn (fig. 167) the houses were arranged in two rows on either side of a wide main street which acted as a green (Roberts 1987, 33). In comparison, Walbottle (fig. 168) is a classic 'green village' (Roberts, 1987, 24 calls it 'an irregular agglomerated plan with central green') where the houses were set around the village green, the shape of which seems to have changed over time. In all three villages each house was set in a narrow messuage or toft (enclosed yard) with outbuildings and a garden. Behind the houses were the crofts (enclosed paddock) or closes (Roberts 1977b, 1987, 20; Rowley and Wood 2000, 38).

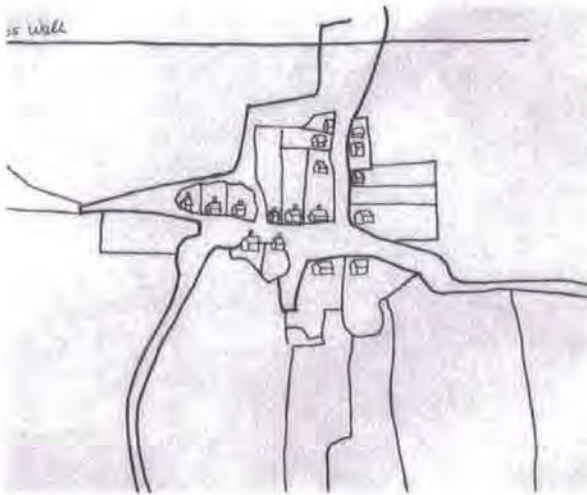


Fig. 166 Tracing of Throckley village from 1620 map (AC O/xvii/1). Throckley was a two-row linear village with access roads from north, south and east. The map shows 17 houses. Hadrian's Wall is shown north of the village.



Fig. 167 Tracing of 'Newburn Towne' from same map (AC O/xvii/1). Newburn, also a linear village, was considerably larger than Throckley. The map shows 38 houses each set in a toft, the church and Newburn Hall at the bottom right hand corner. To the rear of the tofts are the crofts.



*Fig. 168 Walbottle village in 1620 (AC O/xvii/1)
Here the cottages were set around an irregularly shaped green. There are access roads from north, east and south. There is a particularly large house on the green in the area later occupied by Walbottle House. The arable fields and 'Low Meadows' surround the settlement.*

Unfortunately opportunities to excavate the medieval villages in the study area are rare. Most archaeological excavation these days is development-led and there have been few development opportunities in the Newburn area since the introduction of PPG16, the Planning Policy Guidance Note (1990) which recommended that archaeology should be taken into account in the planning process. Whilst there have been numerous evaluations along the line of Hexham Road at Walbottle and Throckley,

in search of Hadrian's Wall, there have been no evaluations thus far on the site of Throckley medieval village and only one in Newburn (Scott Wilson 2007, which failed to find any early deposits) because these villages are already built up. A watching brief on the site of Walbottle Colliery Farm within the former extent of Walbottle medieval village, in advance of a new housing development in 1999 failed to record any archaeological deposits whatsoever (Tyne and Wear Museums 1999). Furthermore, the opportunity to dig in Whorlton, Dewley and Butterlaw is unlikely to arise in the future since these areas, along with the open areas around the other settlements in the study area, are designated greenbelt (UDP Policy GB1). Nevertheless should it prove possible in the future for archaeological work to take place in the historic village cores, the remains of medieval buildings could still potentially be found, depending on the destructive nature of the modern buildings which were subsequently built on the plot. Local examples of medieval village excavations which indicate the type of evidence which could be recovered include West Whelpington (Evans and Jarrett 1987), Thrislington (Austin 1989), Castle Eden (Austin and O'Mahoney 1987) and West Hartburn (Pallister and Wrathmell 1990).

It is of course typically the medieval stone buildings, such as the village church, which have survived the test of time. It is no surprise therefore to find that the only truly early building which survives in the study area is the multi-period parish church of St. Michael and All Angels (fig. 169). The earliest documentary evidence for a church at Newburn is 1067 (Gilhespy n.d., 2) but it is quite possible that there was an Anglo-Saxon church, which would probably have been timber. It has been suggested that the quoining at the south-east angle of the nave and the 'megalithic blocks of the jambs of the blocked west door' might be pre-Conquest (Ryder 1992, 49; Grundy et al. 1992, 406). The early Norman west tower (fig. 170) contains Roman stones presumably taken from Hadrian's Wall (Gilhespy n.d., 2; Nowell 1910, 53). There are only four other Norman churches in Northumberland which have contemporary towers and only

Newburn has a Norman belfry (Ryder 1992, 54). The arcades in the nave are probably late twelfth century (Fraser and Emsley 1978, 200; Nowell 1910, 53). The north arcade's round piers with waterleaf capitals date to circa 1175 and the double-chamfered arches and alternating round and octagonal piers in the south arcade, thirteenth century (HER 1300; Gilhespy n.d., 2). The church did have thirteenth and fourteenth century stained glass but this has been removed (Newburn Urban District Council 1958, 12; Gilhespy n.d., 16). The 'weeping' chancel is largely thirteenth century, and the transepts were added in the fourteenth or fifteenth. The aisle walls, clerestory, vestry north of the chancel and south porch are all nineteenth century, a product of the repair works of 1808 (Mackenzie 1825, 472) and the 'considerable repairs' undertaken in 1827 when much of the church was rebuilt and new stone mullions installed (fig. 170; Sykes 1866, 2, 205).

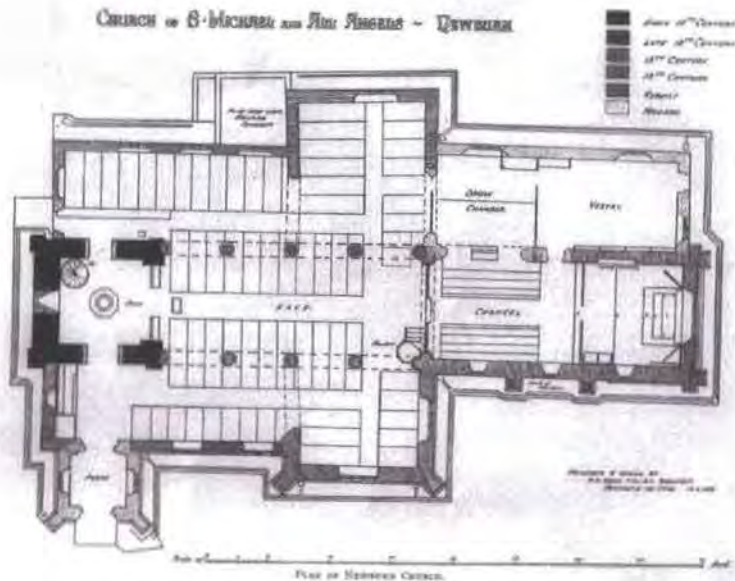


Fig. 169 Plan of Newburn Church by W.H. Wood, 1929 (after Dodds 1930, 122). This shows that the cruciform-shaped building is multi-phase. The tower is the oldest part of the building, dating to the eleventh century. The nave and chancel are also Norman, the porch and windows are later. The clerestory was added in the nineteenth century.



Fig. 170 This drawing of Newburn Church by Robert Bartram, 1928 (after Dodds 1930) shows the oldest part of Newburn church, the early Norman tower which incorporates Roman stones from Hadrian's Wall. The tower is in three stages. The first has round-headed windows and a blocked west door, the second has slit openings and the third stage has round-headed belfry openings. The tower has a pyramidal roof and weathervane (listed building 7/26).

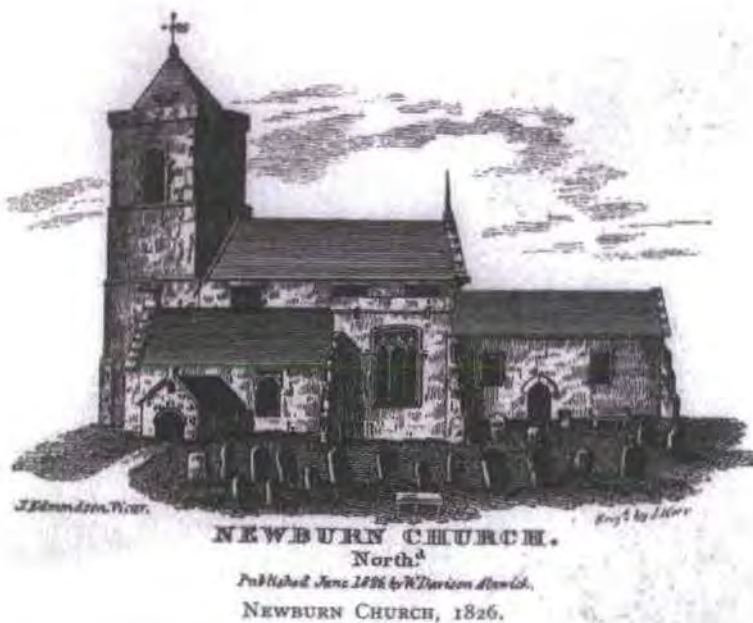


Fig. 171 Sketch of Newburn Church 1826 by J. Edmondson, vicar, and engraved by J. Kerr (after Dodds 1930, 121). This drawing was created before the alterations of 1827.



Fig. 172 Painting of Newburn church c. 1840 (after Dodds 1930, 127). In 1827 alterations, including the installation of new mullions at the windows, were carried out. The windows on this painting and the sketch above are very different. These gothic style lancet windows are typical of the nineteenth century Early English style (Wild 2004, 73).

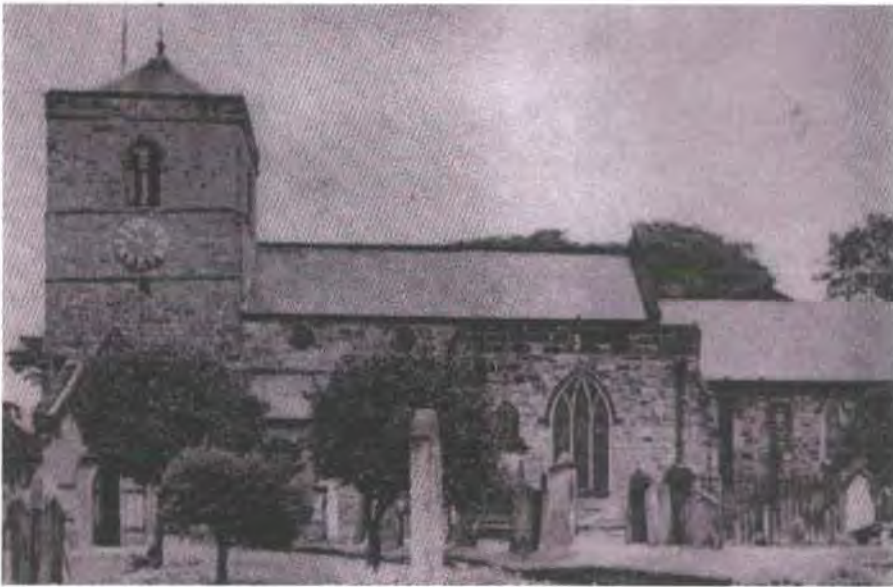


Fig. 173 Postcard of Church of St. Michael and All Angels and its churchyard (after Walton 1990). There are no early in-situ grave slabs - the earliest memorial is the blue marble tomb of Sir John Delaval of North Dissington who died in 1652 located in the chancel (Armstrong 1973, 4; Gilhespy n.d., 4; Wallis 1769, 170). Carved twelfth century grave slabs have however been found incorporated into the tower during restoration in 2007 (Chronicle Extra, 18 April 2007).

Kelly (1886, 415) records that where the New Burn meets the Tyne there was an ancient ecclesiastical structure 'now being rapidly demolished'. No other reference to a religious building at this location has been found.

Aston and Rowley (1974, 122) suggest that the size, character and position are of major importance in indicating whether a church has stood on the site since a remote period. We know that there was an Anglo-Saxon settlement at Newburn, and there could very likely have been a church in Newburn at that date, but until archaeological evidence is able to determine it, we can only ponder over the location of the settlement or the church. It may have been on the same site as the medieval village and more specifically in the vicinity of the medieval church. St. Michael's occupies a prominent elevated location which would certainly have been an advantage if it is accepted that early medieval Newburn might have taken the form of a defensive site. However Newburn church's lofty position is even more interesting because so many British churches dedicated to St. Michael are found in high places (Morris 1989, 53). The reason for this appears to be connected with the saint's role in heaven as warrior and guardian of souls and because during the Roman and early medieval periods there were a series of visions of the saint on prominent hills (Morris 1989, 52-53). The form of the churchyard is important as they can vary in shape and area and were often fenced or surrounded by a bank and ditch (Aston and Rowley 1974, 123; Rodwell 1981, 131, 139; Blair and Pyrah 1996). On the 1620 plan (AC O/xvii/1; fig. 167) the churchyard is set in a square close but the churchyard has subsequently been expanded. Further work on the form of this churchyard, beyond what is possible within the scope of this dissertation, would not be wasted. As the church is the oldest surviving building in the village, the road pattern and boundaries around the church could well be of early date (Rodwell 1981, 43).

Newburn church had been granted to the priory, later bishopric, of Carlisle since 1133 (Dodds 1930, 119). The lay subsidy roll of 1296 valued the parish at £62 for the rectory and £11 1s 2d for the vicarage (Fraser 1968, 64, no. 148). In 1291 £6 4s in tax was recovered by the king for the rectory, in 1340 it was valued at £73 1s 2d and in 1535 the vicarage was valued at £16 per annum (Dodds 1930, 120). An assignment

survives relating to a lease of forty years from Sir Robert Delaval, knight, to Arthur Delaval, his son, for the rectory of Newburn in 1603 (NRO IDE/1/124) and notes delivered by Ralph Delaval to Robert Delaval in 1606/7 also concern the rectory (NRO IDE/5/117). The rectory of this period has long gone, that which survives is nineteenth century (fig. 174).



Fig. 174 Newburn Rectory (copyright author)

The early nineteenth century rectory, probably an earlier version of this building, was in 1826 valued at £260 and described by Mackenzie (1825, 474) as a 'commodious building' with an extensive garden of fruit trees. The importance of Newburn as a supplier of fruit to Newcastle's markets is discussed in chapter three. The location of the medieval rectory is not known.

Newburn had two other significant medieval buildings. Newburn Hall (fig. 175) began life as a pele tower or bastle, probably of fifteenth century date. During the Scottish Wars, which started in 1297, such fortified dwellings (Dixon 1979; Ramm, McDowall and Mercer 1970; Ryder 1993, 2004) were built on both sides of the border to a depth of 40 miles. There are said to have been 180 on either side of the border, and at least 78 in Northumberland (Musgrove 1990, 94; Newton 1972, 99-100). In Tyne and Wear there are known to have been examples of fortified houses or towers at Burradon (which survives as a Scheduled Ancient Monument 32054), Heaton (Scheduled Ancient Monument 32047), Elswick, Benwell, Whitley and Weetslade (HER).



Fig. 175 Painting of Newburn Hall c. 1850 (after Knowles 1915, 192).

This rambling country house developed from a medieval pele tower in the sixteenth century, when a number of ranges were added to form a three-sided square. These additions included a hall, kitchen and pantries, and private rooms (Knowles 1915, 187-199).

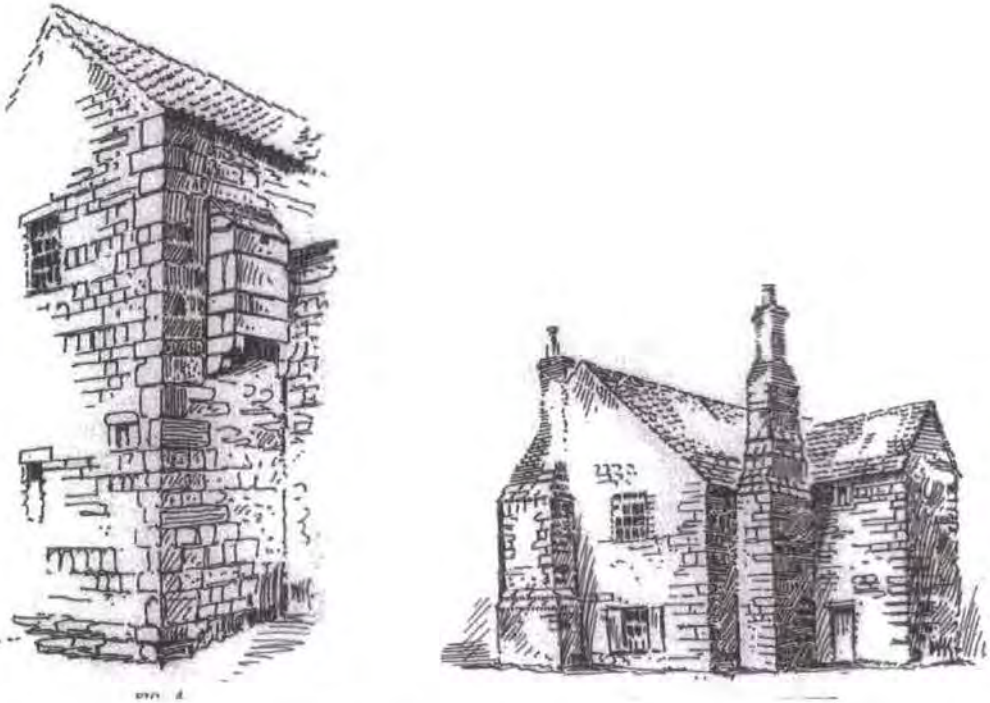


Fig. 176 The drawing on the left (after Knowles 1915, 190) shows the projecting garderobe at Newburn Hall, part of the earlier pele tower. That on the right may depict the 'curious zigzag chimney' described by Tomlinson (1888, 94).

The pele tower, built of coursed masonry, with large quoins, some of which were re-used Roman stones (HER 1287, 1289), had a vaulted basement and segmental roof. It was entered on the east side by an arched door and had three small windows on three

sides, a staircase in the south wall and a garderobe (fig. 176) on the first floor (Knowles 1915, 187-189; NMR NZ 16 NE 18). Presumably as with other examples of these defensive structures, the living accommodation for the animals was on the lower storey, with the family above (Wrathmell 1975, 136; Newton 1972, 101).

In the sixteenth century a range of buildings was added to the north and east sides of the pele tower. Newburn Hall was the home of a branch of the Percy family. Sir Thomas Percy, brother of the sixth Earl of Northumberland, who was executed for his part in the Pilgrimage of Grace of 1536 (an uprising following the Dissolution by Catholics in northern England led by Robert Aske, Hoyle 2001), was said to have lived at Newburn Hall in 1530. He had two sons, Thomas (seventh earl in 1528) and Henry (eighth earl in 1532) who were born there (Brenan 1909, vol. 2, 1; Gibson, 1923; Dodds 1930, 146). In the post medieval period the Duke of Northumberland rented out the house. In 1765 a Mrs Lydia Bell, widow, was living there (Knowles 1915, 199). In February 1835 the tenant, Jane Pike, a widow, and her children Catherine, Kenneth and Julia, were ordered to be removed from Newburn Hall (Lancashire Record Office QSP/3022/30). However two months later, on 27 April 1835, that order of removal was set aside (Lancashire Record Office QSP/3022/10).

Unfortunately nothing survives of this medieval building. The south wing was demolished in 1891 and the east wing was destroyed on November 5 1891 by fire while it was being used as a pattern shop for Spencer's steelworks. The steelworks were dismantled in 1929 and the remainder of the Hall was demolished by 1966 (Fraser and Emsley 1978, 200). In this particular instance industry had given the medieval hall a new lease of life when it became part of the steelworks, but in a cruel twist of fate industry proved to be its downfall as it was demolished after the steelworks went out of use and a new use could not be found.

Another casualty of Newburn's modernisation was the Jacobean manor house (fig. 177, 178), which dated back to the sixteenth or seventeenth century. The house had picturesque gables and chimneys and a 'noble doorway with hood moulds' (Gibson 1923). Newburn manor house was the residence of the landowner's bailiff where the business of the manor was undertaken. It was not the permanent home of the lord of the manor, but would no doubt have been the place of the manorial court (Glasscock 1976, 147; Holmes 1962, 27). It was later the home of the village doctor (AC B/i/6). In its latter years the manor house became the home of the curate of St Michael's church. The last occupant was Rev. F.T. Gardner (Rippeth 1993, 23) and it was demolished in 1909 (Knowles 1915, 199).



FIG. 8.—THE 'MANOR HOUSE' FROM NEW BURN.



Fig. 177 Drawing of the manor house by W.H. Knowles 1895 (after Knowles 1915, 197; NRO Sant.Beq/36/4/45; NRO Sant/Beq/9/18/7/3/3) and an undated photograph (after Dodds 1930, 139).

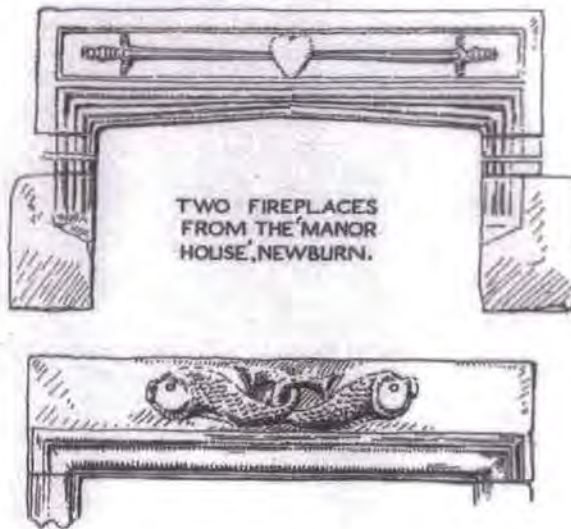


Fig. 178 Drawings of two fireplaces from Newburn Manor House (after Dodds 1930, 198; NRO Sant/Pho/Sli/11/61) typical of the seventeenth century, and an example of restyling common to that century (Wild 2004, 4). One displays a heart and two swords, and the other two fishes (badge of the Lucy family). After demolition of the manor house they were moved to Alnwick Castle (Knowles 1915, 199; Gibson 1923). Faulkner and Lowery (1996, 55) say Washington Old Hall.

Thus there is no surviving evidence, in the form of standing buildings, other than the parish church, to indicate the medieval and in some cases early medieval origins of the villages in the study area. Archaeological evidence may in future come to light which provides information on the date, form and scale of former buildings within the villages to supplement the descriptions in early documentary sources.

8.2 Farms

This section should be read in conjunction with the photographs in volume two.

Until the Industrial Revolution the study area was essentially an agricultural area. A rental of 1685 describes Newburn, with its 'ffarmes', their common and pastures 'very straight', and the town having very good 'soyle' (AC B/i/3). Within the study area, some of the farms have disappeared under modern housing. Fortunately there is abundant documentary and cartographic evidence for these old farming establishments which provide information about the changing fortunes of agriculture in the study area.

Several farms survive but survey work on the standing buildings is beyond the scope of this dissertation.

Chapel-on-the-Hill or Chapel House Farm is the earliest named farm. The name dates back to at least 1559. It was located on the north side of the turnpike road just south of Walbottle Quarry. Prominent local families the Erringtons of Denton Hall and the Fenwicks of Kenton leased this farm from the lord of the manor. Chapel House Farm was sold as a development site in 1953 by the Duke of Northumberland to a J.F. Jackson (plan of conveyance 4th February 1960 held by HER). The name Chapel House lives on in the name of the 1960s housing estate which has been built over it. It is regrettable that this farm site has gone. Archaeological excavations may have retrieved evidence comparable with West Whelpington in Northumberland (Wrathmell and Jarrett 1997).

Table 16 summarises the documentary and cartographic evidence for Chapel House Farm and table 17 the remaining farms in the study area:

Date	Description	Ref
pre-1559	Chapel-on-the-Hill was held by Francis Fitton who was married to the Dowager Countess of Northumberland.	Dodds 1930, 157; Armstrong 1973, 11
1559	A parcel of ground called the Chapell on the Hill was held by Marke Errington of Denton.	Dodds 1930, 147; Knowles 1915, 195
1592	Chappell on the hill yearly rent of 3s.	SH A/i/11; Dodds 1930, 147
1607	Stockdale's survey lists Mark Errington as holding the Chapell of the Hill for a yearly rent of 3s.	AC A/iii/1; Dodds 1930, 147
1610	Piece of ground called Chapell Garth held by Jo. Fenwicke – [the Fenwicks were from Kenton].	SH A/ii/11a; Dodds 1930, 157
1620	The plan of Newburn manor of 1620 shows land divisions called Chaple Deales, Chaple Crofts, Chapel Garth and Chaple Lands on the site of the later Chapel House Farm.	AC O/xvii/1; fig. 263
1622	Martin Fenwicke has compounded for a lease of the Chappell House late John Fenwick's yearly rent 10s.	SH A/ii/11a; Dodds 1930, 148
1625	Martyne Fenwicke leased the Chapell House formerly held by John Fenwicke for 10s.	SH A/ii/11a; Dodds 1930, 157
1651	Martin Fenwicke held Chappell on the Hill for 10s.	SH A/ii/11b; Dodds 1930, 148
1685	Nicholas Fenwick, Martin Fenwick, Nicholas Fenwick held parts of Chapel House for £60, £2 and £4.	AC B/i/3; Dodds 1930, 157
1700-1	Mary Hudleston held the Chappell on the Hill 16s 8d.	AC B/i/6; AC B/vii/2a; Dodds 1930, 149
1710	This plan shows the grounds of 'Chapple House'.	AC O/xvii/2
1748	William Wilson held Chapel House by lease since 1739 (AC B/vii/4 lists William Wilson and Dorothy Taylor at 'Chappell Hill' in 1726).	Dodds 1930, 158
1767	This plan shows the grounds of Chapple House.	NRO Sant/Beq/9/1/1/24; ZAN Bell 45/1; fig. 265
1753	This map shows Chapel Hill.	Horsley
1789	This map shows Chapel Hill.	Cary
1789	This map shows Chapel Hill.	Armstrong
1820	This map shows Chapel Hill.	Fryer
1827	This map shows Chapel Hill.	Greenwood
1848	Ralph Davison was farmer at Chapel House Farm.	NRO DT 468 M; fig. 268
1858	Ralph Davison was farmer at Chapel House Farm.	Kelly 1858
1866	A report of Messrs Tate and Bell on the rent value of Chapel House Farm on 8 December 1866, describes a well-equipped farmstead, with a five bedroomed farmhouse, cart shed, two hovels, fold barn, straw house, horse course granary, two horse stables, pig house, hay house, stables and a poultry house.	NRO ZAN Bell 71/11
1910	Edward Tweddell was farming the land.	Kelly 1910
post 1910	Chapel House was the home of the Wardle family, cattle dealers and farmers.	Walton and Watson 1992, 13

Table 16: Documentary and cartographic evidence relating to Chapel House Farm

Farm	Date	Description	Ref	Extant?
John Snowdon's House, Pigg's Hall, Union Hall	pre-1620	Shown in 1620 in a large enclosure next to arable fields and linked to Newburn by an east-west lane and to Lemington staiths by a wide north-south lane. By 1767 it had either been renamed or rebuilt as Pigg's Hall. Francis Armorer was the tenant of Piggs Hall in 1756. The Tithe Map of 1848 shows another name change as the farm once again is renamed but most likely rebuilt (it grows from a single rectilinear building to a typical nineteenth century courtyard farmstead with horse gin attached) as Union Hall. Adjacent to it are cottages called Black Row and to the south are its oblong fields. Union Hall survived until the fifth edition Ordnance Survey of 1960 and gave its name to Union Hall Road.	AC O/xvii/1; NRO Sant/Beq/9/1/1/24; NRO ZAN Bell 45/1; AC B/vii/5; Armstrong 1789; Fryer 1820; Greenwood 1827; NRO DT 342 M; OS maps; figs 232 to 244	No
East Whorlton House, Whorlton Moor House, Low Whorlton	pre-1620	East Whorlton House is shown on the 1620 plan. At that time, Mark Errington owned the house and the associated pastureland. In 1710 a Mr Auston lived in the house described by Hodgson as 'a handsome edifice'. The map of 1767 shows the property as Whorlton Moor House. Greenwood 1827 shows it as North Whorlton. By 1843 the plot was occupied by a farm owned by the Duke of Northumberland called Low Whorlton. Riddell Robson, farmer and overseer, was the tenant of Low Whorlton. In 1868 the buildings at the farmstead included the old farmhouse, which Mr Robson had converted into two dwellings for the hind and farm steward. There was also a cart shed with three openings, a ruinous barn, a smith's shop, loose box, byer for four cows, six stall stable, turnip house, poultry house and two workers cottages. Twelve years later Robson was still tenant, but the dwelling was known as Whorlton High House. It is named as a lodge from 1898. Gone by 1960.	AC O/xvii/1, 12; Hodgson 1916, 12; AC O/xvii/2; NRO Sant/Beq/9/1/1/24; Greenwood 1827; NRO DT 468 M; NRO ZAN Bell 71/17; Whellan 1855; OS maps; figs. 276-285	No
Dewley House, Dewley Farm Fig. 289	pre-1620	The present Dewley Farm is not the Dewley House which appears on the 1620 plan. There was presumably an even earlier farm or house on this site from the thirteenth century when the 'Ville of Dewley Law' is mentioned in the Lay Subsidy Rolls. In 1765 William Aynsley occupied 'Duly House'. The present farm appears to be the mixed farm which was subject to a valuer's report on 12 Nov 1875. Dewley was a well-equipped farmstead. Behind the house was a brick oven coal stove, stables for nine horses, a cow house, calf pens, a barn, straw barn, a horse course, loose box, piggeries and folds and a poultry house. The house was stone-built with a slate roof and was 'in a fair state' but pointing and painting was required. Nearby were two cottages, one was called a 'wretched dwelling'. There was a third cottage at West Dewley and another held by Walbottle Colliery Company, which was a 'ruinous dwelling unfit for habitation which ought to be removed'. The valuer stated that Dewley Farm was not in a satisfactory state of cultivation. By 1885 it had been vastly improved and mechanised.	AC O/xvii/1; AC O/xvii/2; Fraser 1968, No. 151; The Archaeological Practice 1996b, 11; NRO Sant/Beq/9/1/1/24, 25; NRO ZAN Bell 71/8; OS Maps; Knowles 1915; TWAS UD/Nb/40/14, 15; figs. 209-216	Yes - probably C19 rebuild

Butterlaw Figs. 9, 11, 290	pre- 1620	There was almost certainly a farmstead at Butterlaw in 1620 and in the preceding medieval village. In 1710 it is shown as James Dodds House. By 1767 it is shown as a 'C' shaped building. 'Butted Laws' was farmed by George Crow before 1806. The current farm buildings, now mostly converted into houses, resemble the arrangement shown on the Tithe Map of 1847 which was probably a total rebuild. The farm and cottages were surveyed in 1871. The main farm had been rented by a William Younger for £33.18 per annum and another brick built farmhouse had been converted into a 'cottage and premise', described as 'old and dilapidated', of two rooms with half an acre of land attached.	AC O/xvii/1; A O/xvii/2; NRO Sant/Beq/9/1/1/24, 25; NRO DT 80 M; OS maps; NRO ZAN Bell 71/17-18; PRO IR 26/325; figs. 198-207	Yes - probably C19 rebuild
Ann Cargree's House	pre- 1710	The 1710 plan of Dewley, Butterley and Whorleton Moor shows 'Ann Cargree's house and garth' at the southernmost tip of Whorlton township. It is shown on the 1767 map but is not named. By 1843 the farm had gone.	AC O/xvii/2; NRO Sant/Beq/9/1/1/24, 25; NRO DT 509 M; fig. 277	No
Throckley Fell House or North Farm	pre- 1736	In 1736 this was Throckley Fell House. In 1802 it sits within a field called Fell Butts Close. Butt means irregularly shaped land in an open arable field (Richardson 1974, 20). Named North Farm on OS first edition. Lies next to the brickworks.	NRO Sant/Beq/9/1/1/34; NRO 536/1,2; NRO ZAN Bell 69/10; OS maps; figs. 248-258	Yes - probably C19 rebuild
Coally Hill Fig. 291	pre- 1767	Coally Hill Farm was named after the Coally Hill Dyke (see chapter four). In 1848 the farm was occupied by the executors of the late Cuthbert Lewis and by John Spencer junior in 1858. At the turn of the twentieth century the farm was owned by North Walbottle Coal Company. The colliery manager (1899 to 1929), Joseph Severs, lived in the large house which was said to have beautiful gardens. The house has gone, the site occupied by 1960s housing, but the name lives on as Coley Hill Road.	NRO Sant/Beq/9/1/1/24, 25; Fryer 1820; Greenwood 1827; NRO DT 468 M; Kelly 1858; Kelly 1910; Peacock 1994; OS Maps; figs. 265-274	No
Red Cow	pre- 1767	Red Cow Farm first appears on the map of 1767. It has gone by Ordnance Survey third edition of 1921 and was replaced by rows of cottages. One of these cottages survives along with two other stone buildings now used as a fencing contractors and key cutting shop. Red Cow Farm was instrumental in the development of Westerhope village, which partially extends into the study area. In 1890 the Northern Allotment Society bought part of the farm land from Lord Rokeby of Denton Hall, with the aim of dividing it up into smallholdings. The society renamed the estate Westerhope because they had come west with the hope of forming a new community away from the crowded city centre.	NRO Sant/Beq/9/1/1/24, 25; Armstrong 1789; Greenwood 1827; OS first edition 1858, second edition 1897; Allison and Walton 1989; OS maps; figs. 279-285	No
Fell House Fig. 292	pre- 1767	In 1828 William Hays occupied Fell House, and in 1848 his executors. Kelly's Directory of 1910 lists William Nixon as farmer.	NRO Sant/Beq/9/1/1/24, 25; Greenwood 1827; NRO DT 468 M; OS maps; Parson and White 1828; Kelly 1910; figs. 265-274	Yes - probably C19 rebuild

Newburn Hill Head Fig. 293	pre-1767	Newburn Hill Head is shown on maps as Hill Houses. In 1848 it was owned by the Duke of Northumberland and the occupier was John Arthur. In 1915 the occupier was John Beaumont. The farm was constructed of sandstone rubble with a slate roof and moulded cast iron gutters. A valuer's report of 1852 listed the farm as comprising a dwelling house, coal house, privy, ash pit, boiling house, shed, horse course and yard. Converted to houses circa 1986.	NRO Sant/Beq/9/1/1/24, 25; Armstrong 1769; Fryer 1820; Greenwood 1827; NRO DT 342 M; Ayris and Harbottle 1986; HER 5082; NRO ZAN Bell 71/4; OS maps; Knowles 1915, 199; figs. 234-244	Yes - probably C19 rebuild
West Whorlton	pre-1767	Shown on map of 1767. However NRO 1523/3/5, 6 lists a John Kelley at West Whorleton as early as 1696. By 1843 East Whorlton had been built next to it. Rebuilt as Whorlton Grange.	NRO Sant/Beq/9/1/1/24, 25; Greenwood 1827; NRO DT 509 M; OS maps; fig. 279	No
Cutty Coats Figs. 294, 295	pre-1805, could be C17 or C18	NCL record that the building is fourteenth century in date, but it is not known where this date was derived from. Documentary and cartographic sources do not suggest that this is the case. It is first named on a map of 1805. Linsley recorded Cutty Coats as a group of single-storied linear farm buildings with the cow barn built onto the side of the house. The loft probably provided sleeping quarters. Possibly of seventeenth and eighteenth century origin. The main house was sandstone rubble with quoins at the corners, and was divided into two rooms with a fireplace in each, supporting a central chimney. The extension to the west was a stable. Linsley concluded that the unusual plan form derived from piecemeal modifications rather than purposeful design. The 1861 census lists John Jefferson, miner, as resident. Cutty Coats last had a residential use just after World War Two. It was latterly the premises of a coal merchant. The gables were finished with shaped firebricks, a by-product of Throckley Colliery. Deteriorated after the construction of the Throckley Bypass in 1974, lay empty from around 1998 and now little trace survives.	HER 1599; NRO 691/1/19; Fryer 1820; OS maps; Newcastle Evening Chronicle, 11 October 2001, 30; NCL Neg. 51/3/88; Allsopp and Clark 1969; Linsley n.d.; Bird 1975; figs. 250-258	No
Newburn Hall Farm Fig. 296	pre-1807	First named on a plan by John Bell of 1807. Shown on the Tithe map of 1848 as farming all the fields on Newburn Haugh. Farm cottages cleared 1931-9. Farm still standing in 1978.	AC O/xvii, 14; NRO DT 341 M; TWAS UD/Nb/40/28; OS maps; figs. 222-230	No
Walbottle Dean House Fig. 297	pre-1808	Walbottle Dean House, first shown on a plan of the farm in 1808 has remarkably survived modern developments such as the construction of the adjacent Walbottle Campus, but it is no longer a working farm and is converted into dwellings. Dean House was the home of the Duke's land agent. In 1828 this was George Hedley, in 1848 James Huntley, and William Glover, land agent, is listed as tenant in 1855 and 1858.	NRO ZAN Bell 14/5; Fryer 1820; NRO DT 468 M; TWAS DX 80/1; Parson and White 1828; Whellan 1858; Kelly 1858; OS maps; figs. 266-274	Yes
The Crescent	pre-1820	The Crescent, so-named because it stands in an elliptical-shaped (the symbol of the Duke of Northumberland) enclosure, is shown on Fryer's map of 1820. This farm lies within Throckley Fell and its construction took place shortly after the Parliamentary enclosure of the Fell in 1816. This allotment was owned by the Duke of Northumberland and was occupied by Messrs. Taylor and Huntley.	Fryer 1820; NRO DT 449 M; OS maps	Yes

Newburn Grange Fig. 298	pre-1827	Newburn Grange Farm is a pretty working farm, built by 1827 to the west of Newburn village. It was locally known as Lamb's Farm. A James Lamb is recorded here in 1895 and Thomas Lamb eleven years later. Rippeth suggests that the farm was built on the site of a church or hospice building owned by the monks of Newminster, who crossed the River Tyne at Newburn to reach their land at Chopwell. No documentary evidence has been found which suggests that there was a monastic building at Newburn however. It is likely that the name grange refers only to a farm outside the village (like Whorlton Grange) rather than to any reference to a Cistercian monastic establishment.	Greenwood 1827; NRO DT 341 M; Kelly 1910; Rippeth 1993, 43; OS maps; figs. 222-230	Yes
Throckley House or South Farm	pre-1827	Shown on Greenwood's map of 1827. William Stephenson, coal owner and brick and tile manufacturer lived at Throckley House, a large farm of 6000 acres, in 1851. Throckley House was a prosperous enterprise. In 1851 Stephenson employed servants in the family home and forty farm workers. The house was enlarged with the additional of two east bays with a central bay window. The farm is still standing.	Greenwood 1827; census 1851; Whellan 1855; OS maps; figs. 252-258	Yes
New Winning Fig. 299	pre-1827	Fields called the Winning Closes are shown on the Tithe Map of 1849. The farm is shown on OS maps. The name presumably relates to mining. A couple of stone cottages survive. The rest were cleared 1931-9	Greenwood 1827; TWAS UD/Nb/40/36; OS maps; Walton 1990; NCL neg. 10/9/90 acc. 55886; figs. 224-230	No
East Whorlton	pre-1847	By 1847 East Whorlton had been built directly opposite the eighteenth century West Whorlton. East Whorlton, occupied by Riddell Robson, in 1868 included a hind's cottage, a six stall stable, a byre for four cows and a straw barn. The surveyor recommended the demolition of much of the buildings but concluded that the construction of new stables, byres, barns, piggeries and so on, would be too great an expenditure for the Duke. It was demolished to make way for Whorlton Grange.	NRO DT 509 M; NRO ZAN Bell 71/17; OS maps; fig. 281	No
Cut End Fig. 300	pre-1848	Cut End first appears on the tithe map of 1848 and was occupied by John Wardle. Tenanted by Thomas Wardle, farmer in 1910. The site of Cut End which stood at the branch junction of the Walbottle Moors Waggonway on an old packhorse road from Fell House has not been built over, and the enclosure in which it stood is still apparent, but no buildings survive. There is a record of 'slum clearance' here in 1931-39.	NRO DT 468 M; Kelly 1910; Walton and Watson 1992; OS maps; TWAS UD/Nb/40/13; figs. 268-274	No
Whorlton Grange Figs. 69, 301, 302	pre-1858	West and East Whorlton were rebuilt as Whorlton Grange, which is a planned range of farm buildings, built by John Green for the Duke of Northumberland. It is listed grade two. The buildings are of coursed squared sandstone with ashlar quoins and dressings and have a Scottish slate roof. The range comprises of a six arch cart shed, a small engine house with square chimney and boiler house (for this was a mechanised farm), stable and shelter sheds but because the farm was formed by amalgamation of land it had no farmhouse. Whorlton Grange has since been converted into a residential care home for the elderly.	listed building 7/630; HER 1933; NMR NZ 16 NE 136; Ayris and Linsley 1994, 62-63; OS maps; figs. 283-287	Yes - Listed grade 2

Walbottle Colliery Farm Figs. 303, 304	pre-1848	Walbottle Colliery Farm stood in the centre of Walbottle village. In 1880 the tenant was Edward Rowell, coal owner and farmer. In 1880 this grand farmstead comprised of a stone-built farmhouse with three sitting rooms and five bedrooms ('recently enlarged and improved'), two servant rooms and a dairy. In the yard to the rear were offices, a pig house and a store of stone with tiled roof. There was a stable for ten horses, a barn, a strawhouse, engine house (for this was another mechanised farm) and chimney, a carhouse with granary and two cottages. The former colliery office which was later converted into a dwelling, was sublet to Thomas Whiteford. Edward Rowell fed about 70 head of cattle in the year and worked four pairs of horses. The farm house is still there and displays the Duke of Northumberland's crescent symbol, and a couple of the farm buildings have been converted to dwellings but most of the farm has been demolished (c.1998) for a new housing development called 'Walbottle Farm'.	NRO DT 468 M; NRO ZAN Bell 71/10; OS first edition 1858	Yes – partially
Lemington Lane Farm	pre-1858	Shown on Ordnance Survey first edition	OS first edition 1858; fig. 238	No

Table 17: The farms of the study area

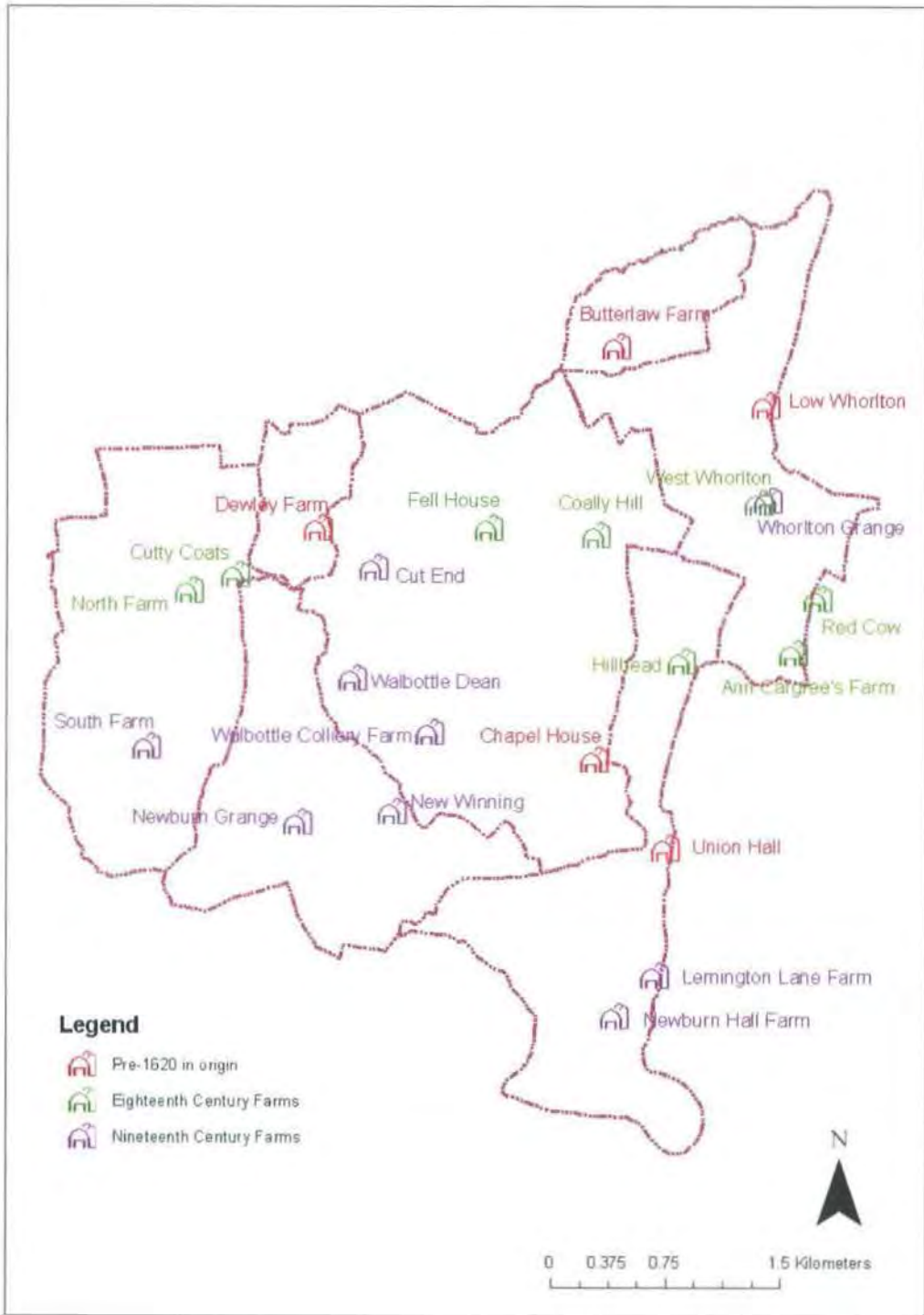


Fig. 179 Location plan of the farms in the study area

The earliest known farm buildings in the manor, at Butterlaw and Dewley, would have been located within the medieval villages, with their land distributed in the surrounding common fields (Beresford 1957, 82). Walbottle, Newburn and Throckley villages undoubtedly also had farms within their historic cores. Once the open field systems were enclosed however, and land was available for rent, farmsteads moved from the villages out to their holdings (Wrathmell 1975, 195, 200-202; Roberts 1977a, 21, 190). The 1767 plan of the Lordship of Newburn shows several new farms Coally Hill, Red Cow, Hill Head, Fell House and West Whorlton (NRO Sant/Beq/9/1/1/24) built away from the village cores within the newly enclosed fields. Enclosure encouraged farmers to move out of the village where the landless labourers (hinds) lived (Roberts 1977a, 190).

Newburn Grange, Dean House and Throckley House were also built within their holdings, but during the following century. Walbottle Colliery Farm is exceptional because this is a nineteenth century farm built on the village street, undoubtedly due to its relationship to the adjacent Duke Pit. The landlord of most of these farms was the Duke of Northumberland (the Throckley farms were owned by Greenwich Hospital) and the tenants, many of them from notable local families (Erringtons and Fenwicks), could be described as 'gentlemen farmers' with grand farmhouses, labourers and farm servants (Wild 2004, 76-77).



Fig. 180 Section of Fryer's map of 1820.

This shows various farms including Butterlaw (Butterly), Dewley, Pig's Hall The Crescent, the two Fell Houses, Hill Head, Chapel House, Coaly Hill, Dean Head and Cutty Coats. It also shows Quarry House at Walbottle (mentioned in chapter five).

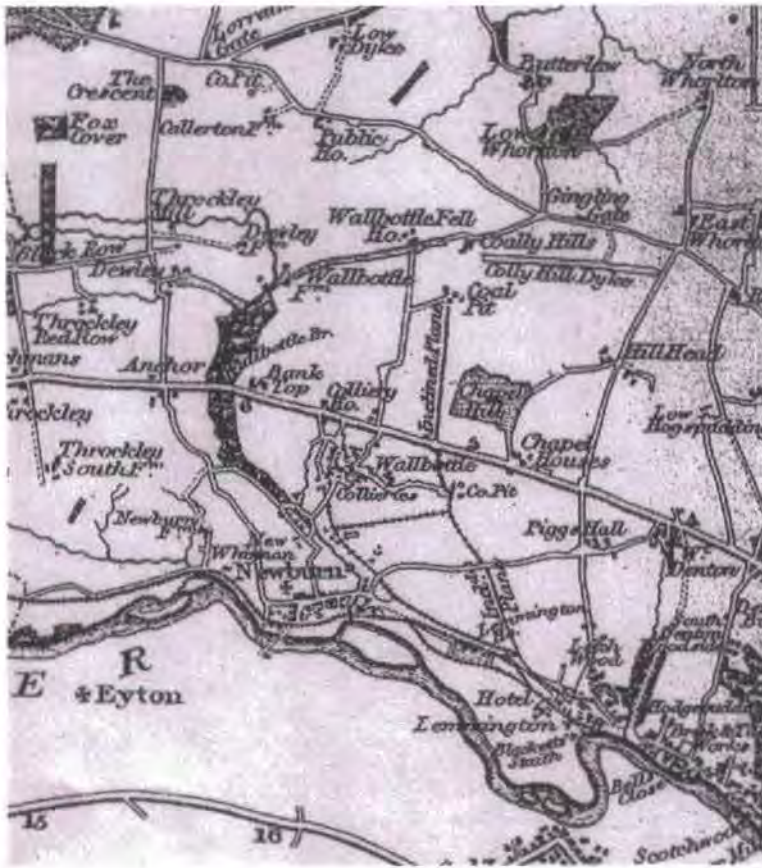


Fig. 181 Greenwood's map of 1827 shows some additional farms – Throckley South Farm, Newburn [Grange] Farm, West and East Whorlton, and New Winnan.

Walbottle Colliery Farm is not the only farm which demonstrates an interesting link between agriculture and industry. At Cutty Coats and Coally Hills industrial entrepreneurs combined their manufacturing interests with farming.

Contemporary descriptions of the farm buildings indicate what type of farming was being undertaken. Stone byres indicate the importance of cattle, gin-gangs the importance of corn, showing that these were mixed farms. During the prosperous High Farming era, farms such as Pigg's Hall and West and East Whorlton were rebuilt (Wrathmell 1975, 212) or enlarged. Scathing reports of the nineteenth century on the unsatisfactory state of pre-nineteenth century farm buildings in Northumberland are common (Barnwell and Giles 1997, 70). It is known that like other great landowners, the Dukes of Northumberland have rebuilt farms every one hundred years (Newton

1972, 123). Northumberland Record Office holds a series of nineteenth century valuations of the Duke's farms which all recommend extensive repairs or rebuilding (NRO ZAN Bell 71/8, 71/10, 71/11, 71/17, 71/18). Likewise, the Commissioners for Greenwich remodelled farms and cottages (Newton 1972, 123) and their manager of the northern estates, Grey, actually designed the new farm buildings (Barnwell and Giles 1997, 70). The typical nineteenth century Northumberland farmstead (fig. 289) was generally 'U-shaped' with the tallest buildings, the threshing and straw barns on the north side to shelter the livestock from the wind, and hemmels or cattle shelters to either side (Barnwell and Giles 1997, 71). The east and west sides of the farmstead were occupied by loose boxes and byres for dairy cattle, stables, pigsties and poultry house. The central yard was open (roofed yards were not commonplace until the end of the century, Barnwell and Giles 1987, 71). At this time outbuildings were added for machinery (Wild 2004, 71) such as the chimneys and engine houses at Dewley, Walbottle Colliery Farm and Whorlton Grange which would have driven the threshing (Wade-Martins 1995, 108; Williamson 2002, 148), chaff cutting and corn cutting machines driven by steam power (NRO Zan Bell 71/8). Most farms were equipped with a turnip or cakehouse to store the winter fodder (Wade-Martins 1995, 112; Williamson 2002, 141-2). In addition to these storage facilities, Dewley also had steaming apparatus for cooking chaff, straw, meal, turnips and potatoes for feeding the livestock (NRO ZAN Bell 71/8).

'The Profits of a Northumberland Farm' is an article about Dewley Farm from the Newcastle Daily Leader dated Nov 6th 1885 (NRO ZAN Bell 71/8). This was a successful business with a stackyard of hay and corn, plenty of land under economically managed cultivation, a small water-wheel at the Dewley Burn which drove a pump to supply the farm with water plus the machinery mentioned above. However the article concludes by saying that even with all this machinery and unstinted capital, the farm does not pay and has lost money every year but one. This

article is evidence of the national agricultural depression which came after 1874, typified by plunging profits, farm failures and rural decay (Wild 2004, 87)

Despite this late nineteenth century agricultural depression, brought about by imported cereal, refrigerated ships for meat, canned food, and which caused a decline in profits and rents (Wade-Martins 1995, 113; Wild 2004, 94, 100) the final demise of the farms in the study area has occurred relatively recently: they are all, except one, still shown on the fifth edition Ordnance Survey of 1960, demonstrating that the landscape has remained agricultural in nature until a relatively recent date. Ann Cargree's house at Whorlton is the exception being lost at an early date. Her land was divided into two fields and named Cargree's Intake in 1767 (NRO Sant/Beq/9/1/1/24) suggesting that the farm was a victim of continuing enclosure and field reorganisation. Many Northumberland farms survived the depression by moving from corn growing into meat rearing for the urban meat markets, which is demonstrated by improved accommodation for sheep and cattle (Barnwell and Giles 1997, 66, 70). Dewley Farm in 1885 included accommodation for 80 cattle and 120 ewes, 40 feeding sheep (NRO ZAN Bell 71/8). The animals were presumably destined for Newcastle's butcher market.

The demolition of the farms was caused mainly by the expansion of modern housing estates, gradually eating into the arable and pasture fields. Chapel House Farm and Coally Hill were certainly demolished for this reason as the landowner the Duke of Northumberland sold off plots of land as individual building sites. Cutty Coats has been lost through the construction of the adjacent A69 and industrial estates.

No early farms survive in the study area, but there may be early fabric incorporated into the buildings of the nineteenth century complexes of Dewley, Butterlaw (both present in

1620) and Throckley North Farm (present in 1736), and at Fell House and Newburn Hillhead, which appear on maps from 1767. Examination of the surviving buildings by a buildings historian would determine if any evidence of the earlier phases of building survives.

8.3 Post medieval buildings

A number of pretty post medieval buildings still stand in Newburn village. For example, the eighteenth century Newburn House (fig. 182) built of sandstone rubble with a Tuscan porch (Grundy et al. 1992, 407).



Fig. 182 Newburn House on Newburn High Street dates to the mid to late eighteenth century and is listed grade two (7/36). It was the doctor's house in the nineteenth century (City of Newcastle upon Tyne Community and Leisure Services Department, n.d., 8). Perhaps the white-washing of the façade of the stone property was undertaken at a later date to accentuate the 'cleanliness' of the new industry-free landscape (copyright author).

In the nineteenth century, the influence of the landowner and Lord of the manor (by then the Duke of Northumberland), is evident through the buildings which were constructed at his request. In 1822 the Duke erected a manorial school house described as a 'neat stone edifice' (Richardson 1843, 256; Sykes 1866, 2, 155). This no longer survives but past the war memorial are the Duke's Cottage's and Percy Terrace which are still present (fig. 308).

The stained and painted glass in Newburn church, represent the arms of the Duke of Northumberland and other contributors towards repairing the church, the Bishop of Durham, Bishop of Carlisle, Matthew Bell (of Wooslington Hall) and Joseph Lamb of Lemington Glass Works (Dodds 1930, 121).

The bailiff's house or Duke's House (fig. 183), built in 1822, still stands. This was the office (Adamson 1973, 13), from where the bailiff or reeve ran the manor estate (Aston 1985, 45), a role formerly undertaken at the medieval manor house.



*Fig. 183 Duke's House, High Street, Newburn (copyright author)
This attractive property is built in coursed squared sandstone and has a raised crescent (the Duke of Northumberland family emblem) over the front door (listed building 7/35).*



*Fig. 184 Datestone and crescent symbol above door of the Duke's House.
(copyright author)*

Newburn almshouses (figs. 185-6) were built in 1870 by R.J. Johnson for the bailiff Hugh Taylor Esq. (NRO ZAN Bell 69/2). Of the twelve available almshouses six were to be occupied by inhabitants from Newburn, three from Earsdon and three from Shilbottle (Kelly 1886, 415; Adamson 1973, 13), lands also owned by the Duke. These handsome one-storey properties are brick built with a Lakeland slate roof (listed building description 7/34).



Fig. 185 Postcard of Newburn almshouses (copyright NCL acc 70723). The design of this building is interesting. The shaped gables echo the Dutch gables common in the seventeenth century (for example Holy Jesus Hospital and King Charles House, Newcastle). The design was copied in Spencer's Steelworks office building (figs. 121-123).



*Fig. 186 Newburn almshouses, High Street (copyright author)
Listed grade 2 (7/34)*

The Duke of Northumberland's tenants paid their rent twice a year at the Boathouse Inn (TWAS DX507/21; fig. 187), which was constructed in circa 1830 (Listed building description, 7/47).



*Fig. 187 Boathouse Inn, Water Row, Newburn is listed grade 2 (7/47).
(copyright author)*

8.4 Transformation from agricultural settlement to colliery village

Chapters four and five demonstrated that Newburn thrived as an industrial centre. In the eighteenth and nineteenth centuries the steelworks, glassworks, ironworks and collieries employed both the local population and drew in workers from outside the area. The influx of workers created a need for either a brand new settlement or the addition of pitmen's rows to older villages (Smailes 1960, 173; Newman 2004, 25).

The growing population of these expanding industrial settlements, some of which had evolved from the medieval villages of Newburn, Walbottle and Throckley, expected to be provided with the types of facilities which you would expect to find in the average colliery village at that time. It was their employer's responsibility to provide religious, educational and recreation buildings for their workers and their families (Hughes 2004; 138). Industrial magnates were also keen to demonstrate their wealth and prominent position in the local community with generous gifts of buildings which would leave a lasting reminder of their benefactions. Armstrong (1973, 25) describes the old village of Newburn as having been 'swallowed up' by an industrial town created by Spencer's Steelworks.

8.4.1 Patronage

This section should be read in conjunction with the photographs in volume two.

8.4.1.1 John Spencer

John Spencer transformed Newburn village. He built rows of good quality brick terraced workers houses, which survive today. Water Row cottages at Newburn, which had been built for colliery workers at an earlier date, were far more meagre structures, stone built and whitewashed. They were part of an extensive Urban District Council 'slum clearance' in 1931-39 (TWAS UD/Nb/40/35). They only had a living room and scullery on the ground floor and a ladder led up to a bedroom lit by a small window under the eaves (Rippeth 1993, 41). This type of one-up-one-down workers' dwelling (see fig. 305), typically of one or two rooms, with a kitchen outshut, toilet and coalhouse across a small yard then a back alley is described by Roberts (1987, 208) as 'not rural, nor urban, but caught in a dreadful limbo'. Another row of 'old cottages' occupied by Spencer's workforce included three cottages of one room with a loft. Underneath the living quarters were cart sheds and a stable. Each had a coal house, privy and ash pit (NRO ZAN Bell 69/3).

The following table summarises the facilities provided by the Spencer family:

Date	Building	Description	Source	Extant?
C19	Workers houses (Newburn) Fig. 309	178 houses in all, including Westmacott Street, Boyd Street and Davison Street, named after foremen at the factory, and four shops.	Adamson 1973, 13; City of Newcastle upon Tyne Community and Leisure Services Department, 9; TWAS 2076/1	Yes
C19	Presbyterian chapel (Newburn)	In 1736 there were 40 Presbyterian families living in Newburn.	Armstrong 1973, 6	No
1832	Wesleyan chapel, Newburn Lane	Before the chapel was built various properties in Newburn and Lemington were used as Methodist meeting rooms, including the granary of George Hall in 1813.	Richardson 1844, 138; Kelly 1886, 415; PG DDR/EA/NCN/2/247/3-4; DDR/EA/NCN/2/211/1; DDR/EA/NCN/2/106a; DDR/EA/NCN/2/211/2-4; DDR/EA/NCN/2/247/1; DDR/EA/NCN/2/247/2	No
1883	Mechanics Institute Fig. 318	Funded by Thomas Spencer at a cost of £2000. Contained two billiard tables, reading, coffee, refreshment, smoking and recreation rooms. Furnished for £600 by John Spencer and Michael Spencer. The Institute provided a 'sober and improving alternative to the public house' as it had a library and rooms for lectures and meetings. On the drive there is an inscribed stone laid by a Lady Wilberforce in 1884. Used as Newburn Working Men's Club, then the unemployment office and latterly (since 1990) as a nursing home. It now stands empty. Archaeologically recorded in March 2006 (Durham University).	History of John Spencer & Sons, n.d.; Walton 1990, 13; Kelly 1886, 415; Archaeological Services Durham University 2006	Yes Locally Listed
c.1866	Whorlton Board School Fig. 314	John Spencer Jnr's three daughters organised social events such as church harvest, waxwork shows, magic lantern concerts at the school to raise money for Whorlton church. The school was enlarged in 1909 to accommodate 300 pupils Today it is a number of private residences.	Atkinson 2004; NRO Zan Bell 69/4	Yes
1866	St. John's church (Whorlton) Fig. 311	Chapel of ease to St Michael's in Newburn. Around 1911 a new taller sanctuary was built. The plan was to replace the whole church with a much larger one so doorways and a sanctuary arch were built. The opening above was 'temporarily' bricked-up. The old church was never demolished and the temporary infilling with house bricks still survives. There is a brass wall plaque inside the church to John Spencer junior who died on 29 April 1905 aged 87, but he is actually buried at Newburn.	Atkinson 2004; NRO EP 86/399/11/41; NRO EP 27	Yes Locally Listed
1885	Newburn Church lychgate Fig. 313	Paid for by Spencer family. Designed by W.S. Hicks. Sandstone ashlar walls and pegged timber framing; stone-flagged roof with ridge tiles and wrought iron cross finials. Free Gothic style. Inscriptions and richly-carved brackets. Figure of Christ on east gable.	Pevsner 1992, 406; Armstrong 1973, 4; City of Newcastle upon Tyne Community and Leisure Services Department, 8	Yes Listed Grade 2 (7/30)

1887	St. Mary's Church (Throckley) Fig. 312	Chapel of ease for St. Michael's in memory of his wife who had died in 1882. By W.S. Hicks in the late twelfth century style. In the obituary of John Spencer, the church was described as "a handsome structure, consisting of chancel, nave and baptistery". Cost £1500 and built on a site given by the late Duke of Northumberland.	Grundy et al. 1992, 406; NCL Death of Mr. John Spencer, A Captain of Industry, April 29, 1905; NMR NZ 16 NE 132; Kelly 1910	Yes Listed Grade 2 7/37
1890	Newburn Manor School Fig. 315	Built by John Spencer and the Duke of Northumberland at a cost of £4000.	Armstrong 1973, 30	Yes
1890	Brass communion rails with a marble rail	Paid for by Spencer family in memory of Michael Spencer, church warden for 24 years.	Gilhespy n.d., 10	Yes
1909	Wesleyan Sunday School Fig. 317	Converted into Newburn cottage hospital when the Wesleyans built a larger school. Later still it was a maternity home.	Rippeth 1993, 20; TWAS UD/Nb/20/29	Yes

Table 18: Spencer family building projects

The religious well-being of Spencer's workers was taken care of by the construction of nonconformist chapels and St. John's church at Whorlton. It is amazing to think that until the late nineteenth century the residents of Butterlaw, Whorlton, Throckley and Walbottle all had to travel to Newburn village to go to church. At the turn of the twentieth century the ecclesiastical parish boundary was changed and St John's became the parish church for Whorlton parish. Enhancing the parish church was a generous act which would have been viewed with admiration, so the Spencer family also paid for various decorative fittings at Newburn (Grundy et al. 1992, 406; Armstrong 1973, 4; Gilhespy n.d., 10).

For the recreational pleasures of their employees, Spencer's Steelworks provided the institute in Newburn (Kelly, 1886; Rippeth 1993, 22). The impressive institute is still there, though empty, occupying a prominent position overlooking Newburn High Street.

Education was provided at Whorlton Board School and Newburn Manor School. The appearance of village schools was largely due to Gladstone's Elementary Education Act of 1870 which decreed that every child not receiving private education had to be provided with a place in a local elementary school. Later full-time attendance was made compulsory for children aged 5 to 11 (Wild 2004, 91, 109).

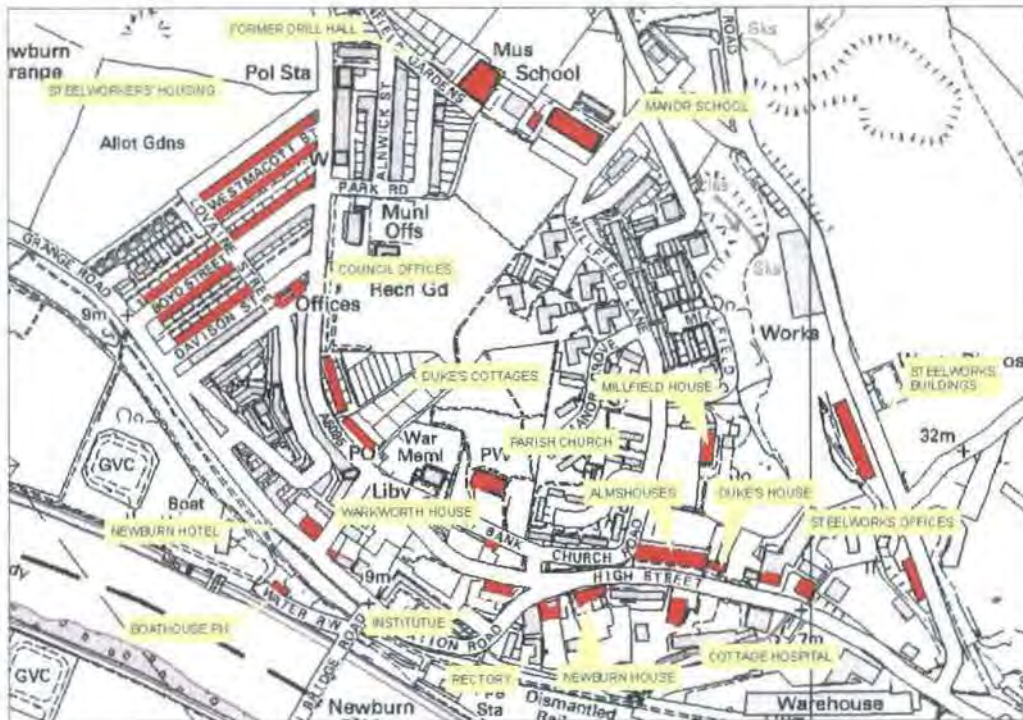


Fig. 188: Surviving historic buildings in Newburn village

8.4.1.2 The Stephensons and Throckley Coal Company

The owners of the colliery at Throckley provided their employees with similar facilities. As at Newburn, industrial housing in Throckley was provided by the obligatory terraced cottages. Those which survive are typical examples of the terraces of two-storey cottages common in the northern coalfield, stone or brick with slate roofs and outhouses to the back lanes (Smailes 1960, 196). Unsurprisingly most of the residents of Throckley were employed in industrial enterprises – the census return of 1861 lists the occupants of New Row as including John Mires, miner, John Scott, firebrick maker and John Thomson, brickmaker. William Chisholm, brick and retort maker, later John Bell, who worked for the Stephensons, lived at Lodge House and at Waggon House lived Michael Makepeace, waggonman and George Simpson, also a waggonman occupied Boundary House. Black Row was rented by a miner, a tea dealer and a firebrick maker. Of those residents listed, 30 have industrial jobs and only 12 are farm

labourers or farmers. By the third edition of 1921 there were rows of stone and brick cottages along much of Hexham Road and many of these still survive (fig. 324).

Date	Building	Description	Source	Extant?
C19	Sinkers Row	So named either because they were built with sandstone extracted from the shaft, or because it's construction coincided with the sinking of a shaft, this row was the first housing built by the coal company.	City of Newcastle upon Tyne Community and Leisure Services Department, 16	No
1851	Wesleyan Methodist chapel Fig. 320	Built at Bank Top by Stephenson for his wife Miss Ward of Edmundbyers who was a devout Methodist. Became the mechanics institute when a new church was built in 1871.	Walton 1994, introduction; Armstrong 1973, 6	No
1871	Methodist church Fig. 321	Built on north side of Hexham Road. Demolished 1999.	Walton 1994, introduction; NRO M12/B12	No
1871	Day School Fig. 322	Built next to the Methodist Church. The date of its construction was commemorated on a stained glass window. Infant school added in 1876. Demolished in 2004 but archaeologically recorded beforehand.	Armstrong 1973, 30; Pre-Construct Archaeology 2004	No
1887	Co-operative store Fig. 330	Built on Hexham Road.	TWAS DT/COP3	Yes
1891	Primitive Methodist church	Built by lead miners from Allendale who came to Throckley to work in collieries.	Rippeth 1993, 51; Armstrong 1973, 6	No
by 1898	Pine Street, Beech Street and Oak Street Fig. 325	These are some of the earliest brick pitmen's rows in the centre of Throckley, probably by the Throckley Coal Company to house workers from the Maria Pit and Firebrick Works.	Walton 1994; Ordnance Survey second edition	Yes
by 1898	Mount Pleasant	Stone-built row parallel with Newburn Road. New Mount Pleasant was added later in brick.	Walton 1994, 19; Ordnance Survey second edition; TWAS UD/Nb/20/33-36	No
by 1898	The Leazes Fig. 329	Brick-built terraces near to Isabella Colliery.	Ordnance Survey second edition	Yes
by 1898	Blayney Row Fig. 327	Built near the NER railway line for the employees of Heddon brickworks by Bates of Heddon Hall and were sold to the Throckley Coal Company in 1895. There is a similar row called Moore Court nearer to the river.	City of Newcastle upon Tyne Community and Leisure Services Department, 16	Yes
1899	Manse Fig. 324	Built opposite the Methodist church on the corner of Coach Road. Built and furnished by Mrs Stephenson. Now called Vallum House.	Walton 1994, introduction	Yes
1906	Church hall		Walton 1994, introduction	No
1907	Aged Miners Bungalows		Walton 1994, introduction	Yes
1920	Workmen's club or institute Fig. 331		Walton 1994, introduction	Yes

Table 19: Buildings erected by the Stephensons or Throckley Coal Company. The late date of most of these building projects indicates that Throckley particularly thrived after the sinking of the Derwentwater shaft in 1878 (Walton 1994, introduction).

Throckley is a good example of a mining village which grew up from an earlier settlement but both remained distinctly separate. As discussed in chapter two, the old village of Throckley was south of what became the main east-west road. The industrial settlement which had evolved by the 1850s was a series of rows along the turnpike road.

Following the cessation of deep shaft coal mining and the demolition of colliery buildings, terraced housing and methodist chapels are often the only surviving elements of a nineteenth century mining village. The terraces at Throckley still stand. However the nonconformist chapels, church and associated school have gone and have been replaced by modern housing.

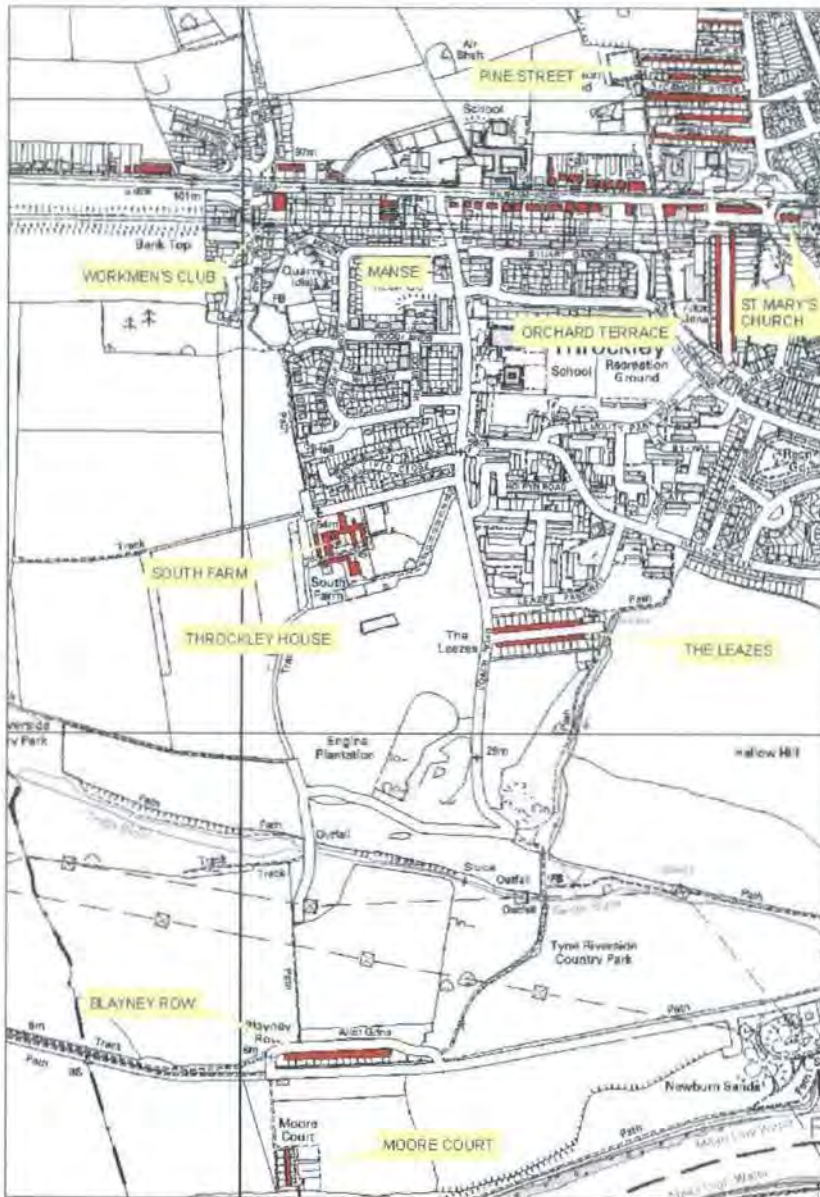


Fig. 189: *Surviving historic buildings in and around Throckley village*

8.4.1.3 Walbottle and Walbottle Colliery

The old village of Walbottle was similarly 'improved' by the owners of Walbottle Colliery. Like its neighbours, Walbottle was provided with religious institutions, recreational and educational facilities. There had been a school of some sort since 1842, held in the Methodist chapel (Seeley 1973; Kelly 1873, 539). Like other colliery

villages there had to be at least one public house or inn. Hawthorn Terrace incorporates one of the early public houses in Walbottle at one end (fig. 335), and the former cooperative store (fig. 336-7) at the other.

Like at Throckley, purpose-built industrial brick housing at Walbottle was built outside the extent of the earlier village, mainly on the northern side of Hexham Road. The form of the older village core would have been in fact in stark contrast to the masses of later miners' houses (Smailes 1960, 194).

The following table summarises the evidence for historic buildings in Walbottle:

Date	Building	Description	Source	Extant?
1837	Wesleyan Methodist Church Fig. 335	Later taken over by the Primitive Methodists. Built of hammer-dressed coursed squared sandstone. Welsh slate roof. T-plan. One storey, Projecting gabled left porch. Renewed double door, pointed-arched front porch window. Round-headed windows.	NRO DT 468 M; Richardson 1841, 376; Seeley 1973; Kelly 1873, 539; ; NRO M12/B6	Yes Listed grade 2 (7/46)
pre-1858	Walbottle Colliery School		Ordnance Survey first edition	No
1801	Mission Hall		Walton and Watson 1992, 19	No
pre-1855	Crown and Anchor Inn		Whellan 1855	No
pre-1858	Brown Jug & Half Moon Inn		Kelly 1858; OS first edition	No
C19	The Locomotive Inn	Later the Engine Inn, now the Original Masons. Developed from a cottage in which home-brewed beer was served in the front parlour. It was extended by adding a gable to the rear of the cottage.	Rippeth 1993, 62; Walton and Watson 1992, 15	Yes
1881	Primitive Methodist Chapel	Built using stones from demolished buildings. Site now occupied by Segpool House (fig. 334).	Archaeological Services Durham University 2007	No
1891	Village Institute Fig. 335	Also used as a chapel and school.	Walbottle Village Trail	Yes
pre-1898	Drill hall	Used by the 2nd Volunteer Battalion Northumberland Fusiliers	OS second edition	No
1903	Co-operative Store Figs. 336-7	It had a range of shops on ground floor, a hall and reading room upstairs. This grand building, built in red brick with ashlar dressings, is now a gym.	Rippeth 1993, 65	Yes
1907	Walbottle First School	Displays crest of Duke of Northumberland. Nursery added 1908.	Walbottle Village Trail	Yes

Table 20: *Historic buildings in Walbottle village*

Walbottle old village suffered its most dramatic changes in the twentieth century. Old Row (fig. 47), with its twenty-one back-to-back dwellings with one downstairs room, plus pantry and attic bedroom (Walton and Watson 1992, 6), was condemned and demolished in 1911. Thomas Charlton built the present Whitehall Road and Richmond Terrace in their place in 1913 (Contact Magazine October 1971; Rippeth 1993, 64; fig. 335). In 1920, Walbottle High Square was still occupied by quaint but dilapidated whitewashed single-storey stone cottages with pantiled roofs (Walton and Watson 1992, 7) and detached outhouses across a wide unpaved back lane (Smailes 1960, 194), but they were demolished by Newburn UDC in 1970 because they were declared substandard (Rippeth 1993, 61). There were similar cottages on School Bank (fig. 333) and around the green. Compared with modern standards they must have been grim places in which to live.

It is largely the better-built larger slate roofed brick terraces, built between 1850 and 1914 which survive (Smailes 1960, 179). They could be cheaply built with locally colliery-produced bricks. Dene Terrace, a picture-postcard row of stone houses (fig. 49), built by 1898, at the southern extremity of Walbottle village is the only surviving example of a stone-built row. The modern village of Walbottle was built mainly from the stone from the demolished old cottages in 1960-4, on land given to the council by the 10th Duke of Northumberland (Armstrong 1973, 10; Walton and Watson 1992; TWAS UD/Nb/20/1-61/55, 56).

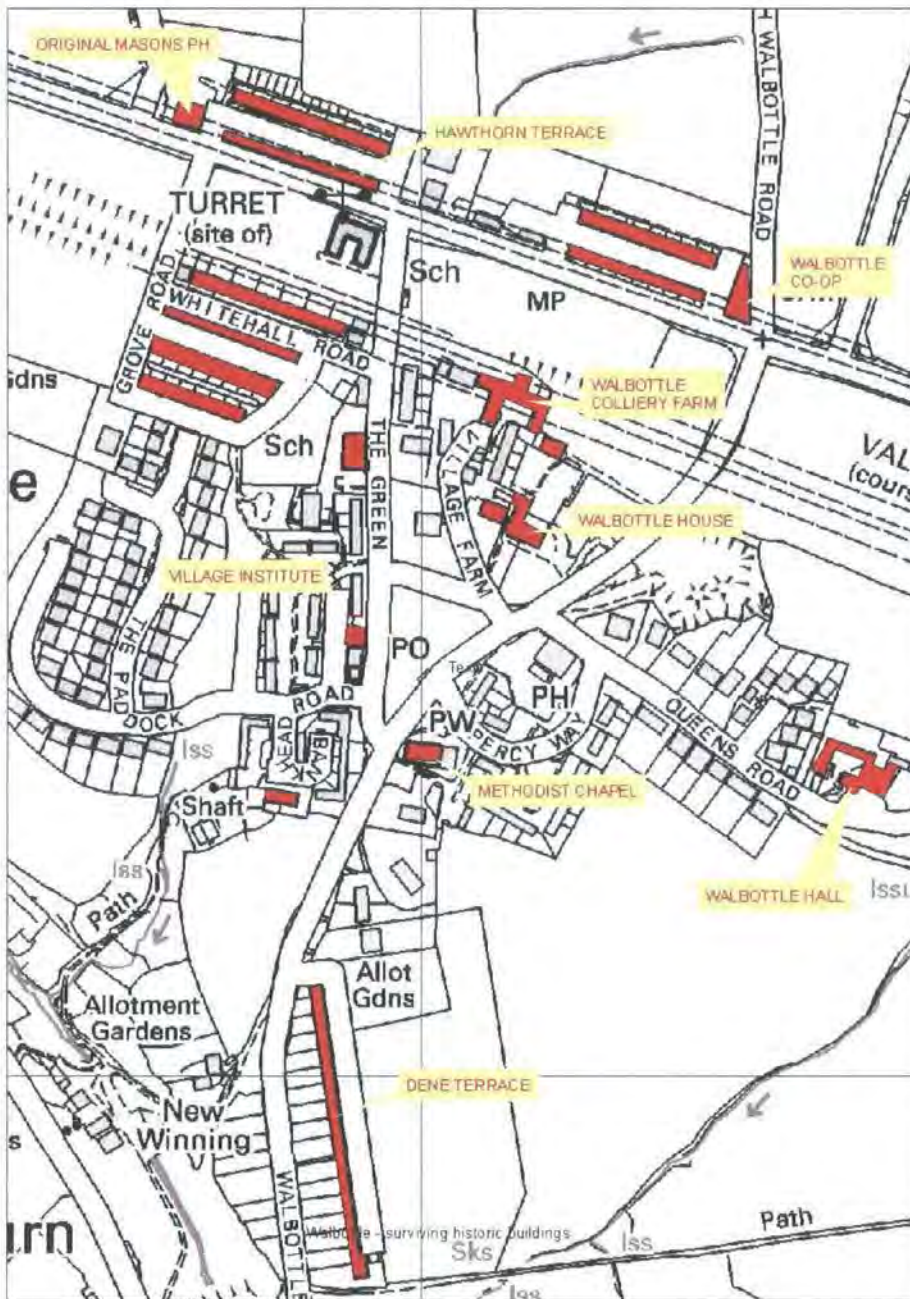


Fig. 190: Surviving historic buildings in Walbottle village.

This discussion on industrial patronage has shown that the nineteenth century brought profound and radical changes to the built environment of Walbottle, Throckley and Newburn, which were transformed from traditional rural farming villages into industrial settlements. Indeed Newburn is commonly described in literature as an industrial town. We owe the layout of these villages today largely to the industrialists who built rows of cottages, nonconformist chapels, churches, schools and their recreational facilities

(Hughes 2004, 138). The importance of many of these structures has been recognised in their designation as listed and locally listed buildings.

Walbottle and Newburn still retain their village feel, because at Walbottle the new houses were built around the village green rather than encroaching onto it, and at Newburn the village still retains its medieval two row form at its core. Many traditional village homes and miner's houses were demolished in the 1960s and 70s, but a significant number do still survive, and several chapels, churches and other buildings built by the colliery, steelworks and brickworks owners are still present.

8.4.2 Purpose-built industrial settlements

8.4.2.1 Lemington

In some cases the industrialists did not enhance and expand an existing village, they created a brand new settlement where previously nothing existed (Newman 2004, 25). This is the case at Lemington, where a small cluster of houses evolved around the staiths. This tiny settlement is shown on the 1620 plan of Newburn manor, along with a larger complex of buildings set around a three-sided square, labelled as Henrik's house and close (AC O/xvii/1; fig. 238). Smailes remarks that industrial settlement began at Lemington from the mid sixteenth century (Smailes 1960, 131), referring to the water mill of 1528 and house of 1559 (Knowles 1915, 195-6). Industrial settlements like this began to fill the countryside which had proven unsuitable for early vills. They were not subject to the same landscape requirements because they merely needed to be near pits, or in this case the river (Smailes 1960, 194). As industry expanded, so did the village.

During the course of the nineteenth century Lemington expanded along the river to the east as Bell's Close, eventually joining up with Scotswood. Mackenzie described Bell's Close in 1825 as a miserable place to live. Pollution meant that houses here had no doors or windows on the south side facing the iron and glass works (Armstrong 1973, 23). Smailes (1960, 177) tells us that the population on Tyneside increased from 200,000 in 1850 to $\frac{3}{4}$ million by 1914 due to industrial development, which led to the construction of an expanse of terrace housing behind the riverside industrial strip, filling up the gaps between the older settlements and eventually coalescing into a 'single conurbation'. Indeed Lemington is the most densely built-up part of the study area.

The Victorian terraces at Lemington (fig. 348), constructed on the slope to the Tyne, were named after famous generals, politicians and local families (such as Wellington, Gladstone, Montague, Newcastle City Council 2006). A Wesleyan chapel was built in 1838 and a Primitive Methodist chapel was added by 1863, which later became a school then a Mission Hall (Newcastle City Council 2006; fig. 343). A new Primitive Methodist chapel was built in 1891. Lemington also had an Anglican church (fig. 338) and school (fig. 339), a Roman Catholic church (fig. 340) and school (fig. 341) and a board school (fig. 345). Volume two includes photographs and descriptions of these buildings.

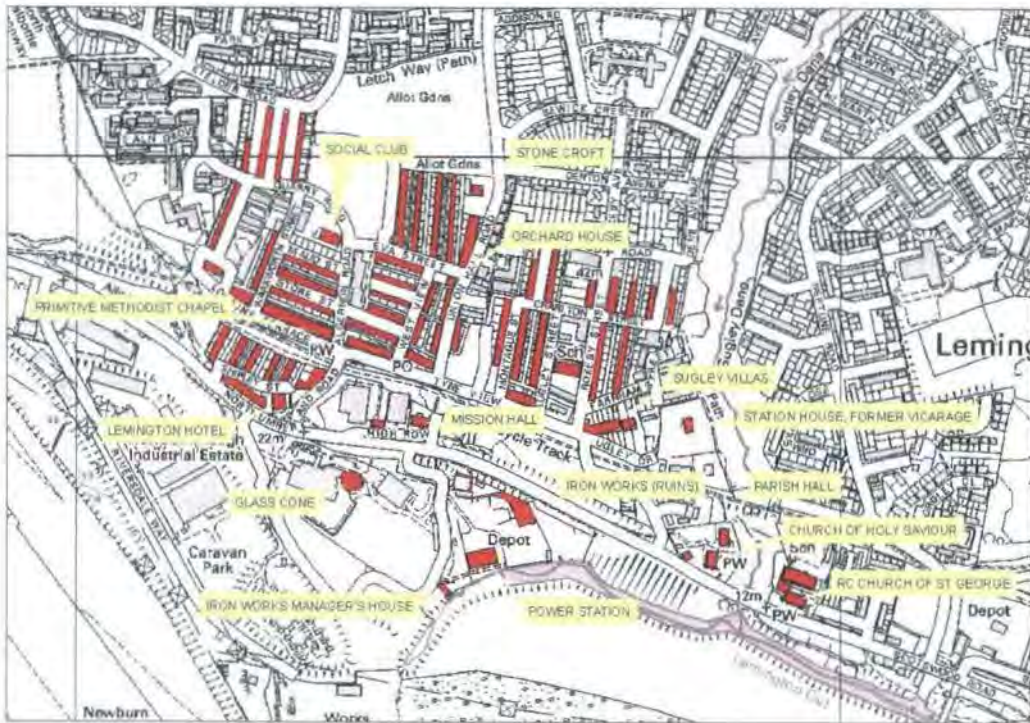


Fig. 191: *Surviving historic buildings in Lemington.*

8.4.2.2 Blucher

Unlike Lemington, Blucher did not evolve gradually but was a new settlement swiftly created by the Throckley Coal Company who took over Blucher Pit, part of Walbottle Colliery, in 1901. Today the colliery may have gone, but the rows of red brick terraces built for the colliery workers still survive (fig. 349), having been refurbished in the 1970s. Unlike the tiny dilapidated stone cottages which were demolished at Walbottle, these were spacious good quality houses. The streets were named after the company directors – Stephenson, Spencer, Simpson and Boyd. Coquet Buildings included a row of shops and at the rear of the village was Blucher Terrace (Peacock 1994). St. Cuthbert's church at Blucher (fig. 351), built in 1905 was another chapel of ease to Newburn parish church (Armstrong 1973, 5). Blucher was then presented with a Methodist chapel (fig. 350) by Miss Kate Stephenson of Throckley, the major's daughter or sister presumably, in 1906 which still stands (NCL Walbottle and Blucher folder; Peacock 1994). Railway Cottage, which has now gone, was built next to the

level crossing and the occupier closed the gates when the North Walbottle Colliery locomotive went by (Peacock 1994).

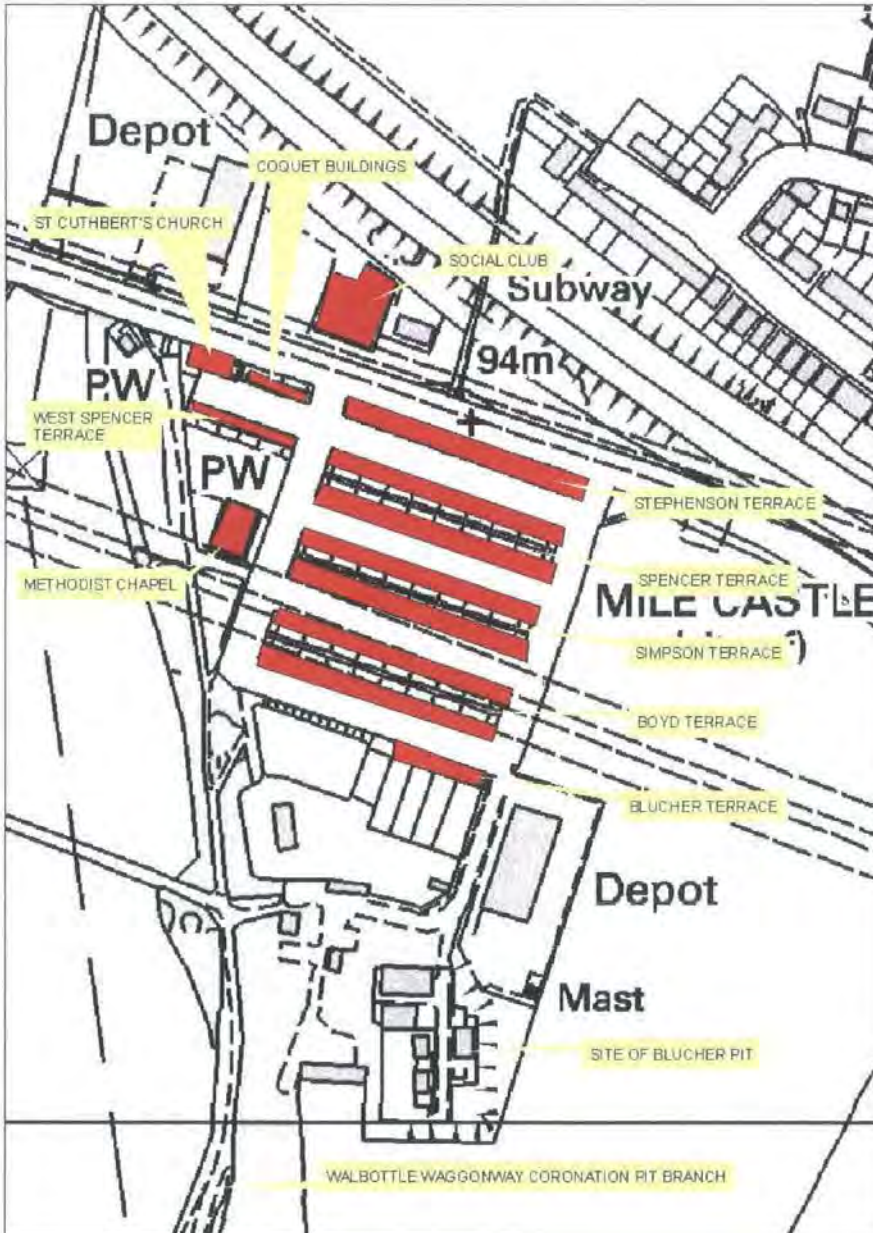


Fig. 192 Surviving historic buildings in Blucher village

8.4.2.3 North Walbottle

Coronation Pit was owned by Mr R.O. Lamb of West Denton Hall in the early 1800s. Lamb (who paid for the Catholic Church at Lemington), built rows of worker's terraces at North Walbottle called Coronation (fig. 353) and Chapel Rows along with a

Methodist chapel. In the 1890s North Walbottle Coal Company built further cottages, such as North View (fig. 354), in locally quarried stone, near the pit (Peacock 1994, 15; NRO 1412) and in Westerhope (Allison and Walton 1989, 16-17). The only remaining colliery row is Whorlton Terrace or 'Gaffer's Row' (Peacock 1994, 15; fig. 355).

North Walbottle had no school as it lay so close to the school at Whorlton and the local Anglican church was St. John's at Whorlton, but it did have one place of worship, the Apostolic church on Coley Hill Terrace (Peacock 1994).

In 1911 the smart Northumberland Gardens estate was built, named after the landowner the Duke of Northumberland. Each house had a large garden for use as a smallholding (Peacock 1994). Today Northumberland Gardens (figs. 193, 356) is designated as a Conservation Area.



*Fig. 193 Northumberland Gardens, carefully designed with large houses in extensive grounds, stands out from the adjacent modern housing estates built over North Walbottle Colliery.
(copyright R&I 10291046, 7 September 1991)*

The rest of the colliery village was demolished by Newcastle Council in the 1970s and was subsequently replaced by new housing estates – The Boltons, Abbey Grange and Abbey Farm.

Landscape studies in the past have too often concentrated on the medieval villages and their surroundings and have ignored the significance of those later villages created by the industrialists. The history of Blucher, Lemington and North Walbottle is of no less importance than that of their medieval neighbours. The standing buildings have much to teach us about the physical and visual impact of industry on what was an agricultural area. In an age where deep-shaft coal mining has ceased, and where the spoil heaps and winding stock has long gone, colliery villages remain the last poignant reminder of how the industrial manufacturers brought prosperity to Tyneside. Unfortunately many colliery villages have decayed since mining came to an end, and the cottages, schools and nonconformist chapels are systematically being demolished to make way for new residential developments. This is true to a degree here, but a substantial percentage of industry-related buildings does still exist alongside the modern, and in the main they have been put to new uses which will protect them from future stagnation.

8.5 Country houses

Another way in which the industrial magnates influenced the landscape was the construction of their grand dwellings on land which was once agricultural. These were the comfortable new 'halls' of the nouveau riches who had made their fortune from the coal trade or other industry (Smailes 1960, 154; Wild 2004, 75). Land was cheap and materials from local quarries or brickworks were plentiful (Hoskins 1955, 219). These country pads, often in landscaped parks away from the village, were built for pleasure (rather than defence) and were a display of social achievements, personal wealth and

power rather than representing the community like the medieval manor house (Williamson and Bellamy 1987, 116; Wild 2004, 40).

As an area which thrived during the industrial revolution, it is no surprise that palatial dwellings such as these were not uncommon in the study area:

House	Date	Description	Ref	Extant?
Whorlton House or Hall Figs. 194, 357, 358	pre-1620	The home of Anthony Errington (a relation of the Erringtons of Denton Hall) in 1620. By 1710 it was occupied by a Mr Cally. The Tithe award of 1843 lists James Colbeck of Walbottle Colliery, as the occupier. Mary Colbeck was farmer at Whorlton Hall in 1855. The Hall became the home of Archibald Reed, who was Mayor of Newcastle in 1820 and 1827. Historic map regression shows the development of the Hall and parkland. In 1847-68, a survey of Whorlton Hall describes it in a dilapidated state with cracked lead on the roof, water leaking in and flagging in the yard decayed. John Spencer Jnr died there in 1905. Sadly the hall was destroyed by fire (Atkinson 2004) and the Whorlton Hall of today is a modern replacement, but the cottages and parts of the home farm survive.	AC O/xvii/1; AC O/xvii/2; NRO DT 509 M; Whellan 1855; Parson and White 1828, 425; NRO ZAN Bell 71/18; NRO/578/42	No
Lemington Hall Fig. 195	1786	Built in 1786, the seat of Joseph Lamb, partner in the Northumberland Glass Company. John Spencer lived here and died here in 1867. The house was later tenanted by Robert Burns Esq. A valuation report of Lemington House in 1877, describes it as 'an extensive mansion' containing drawing room, dining room, library and breakfast parlour, opening from an entrance hall, with kitchen, butler's pantry and servant's hall to the rear. On the floor above were four bedrooms and a dressing room and above that, four attics. Within the grounds were an entrance lodge, stables, coach house, grooms chamber, cowhouse and other outbuildings. When originally built the house would have been in open grounds with extensive views over the River Tyne and surrounding countryside. With the coming of the railway however, its views and location were spoilt forever. The Ordnance Survey fourth edition of 1940 names the building as a club and it was demolished in 1953.	Parson and White 1828, 425; Kelly 1886, 415; NRO ZAN Bell 69/3; Newcastle Journal, 13 January 1953	No
Sugley House	pre-1797	In 1797 the principal share holder of Lemington Iron Works, Mr Bulmer, a merchant from Hull, lived in Sugley House on the edge of the Sugley Dene. In 1886 it was the home of Richard A. Lewis, engineer at Spencer's Steelworks. When the Tyne Iron Works were auctioned off in 1870 the sale included a 'most commodious mansion house with large garden and pleasure grounds' and Sugley Farm of 31 acres. No trace of this house survives.	Armstrong 1973, 20; NRO ZAN Bell 69/8; Kelly 1886, 415; Mackenzie 1825, 486	No
Walbottle House Figs. 359, 360	C18	Walbottle House, now three separate dwellings, is early eighteenth century in origin, but has a late eighteenth century rear wing, which was probably a stable, and has been subject to considerable alterations since that date. The house is built of coursed rubble, now pebble-dashed, with a green slate roof and stone gable copings and yellow brick chimneys. The rear wing is of red brick. The interior retains a dog-leg staircase and three early nineteenth century chimneypieces. To the rear of the property is a pretty walled garden with walls of handmade brick and stone rubble and a decorative iron gate in east wall. In the mid to late nineteenth century, G. Archibald Potter Esq., coal owner, leased Walbottle House and in 1910 a Thomas Gregory lived here.	HER; listed building description 7/45; Whellan 1855; Kelly 1858; Kelly 1910	Yes Listed Grade 2

Walbottle Hall Figs. 361, 362	C18-C19	A short walk to the east lies the very grand Walbottle Hall, another eighteenth century house, now divided into two dwellings, with a nineteenth century addition still called Walbottle Hall. The oldest part of the Hall is built of local pinkish brick but is now mostly pebble-dashed. The nineteenth century part, built of tooled sandstone with ashlar quoins and dressings has been designed in a baronial style with a castellated tower decorated with gargoyles. James Colbeck leased Walbottle Hall from the Duke in 1848 and John Taylor Ramsay Esq. lived in Wallbottle Hall in 1858. He was accused of stealing fittings from the house when he became bankrupt. Michael Spencer lived there in 1886. Mark Spencer died there in 1888. The shipbuilding Lindsay family lived there in 1910.	listed building description 7/40; NRO DT 468 M; Kelly 1858; Kelly 1886; Walton and Watson 1992, 10; Kelly 1910	Yes Listed Grade 2
Millfield House Fig. 363	C19	In Newburn village a short walk north of the almshouses lies Millfield House which was occupied by the Spencers. John W. Spencer lived here in 1886 In 1910 it was divided into two properties and occupied by a Thomas Maxwell and James Davis.	OS maps; Kelly 1886; Kelly 1910	Yes

Table 21: Country houses in the study area

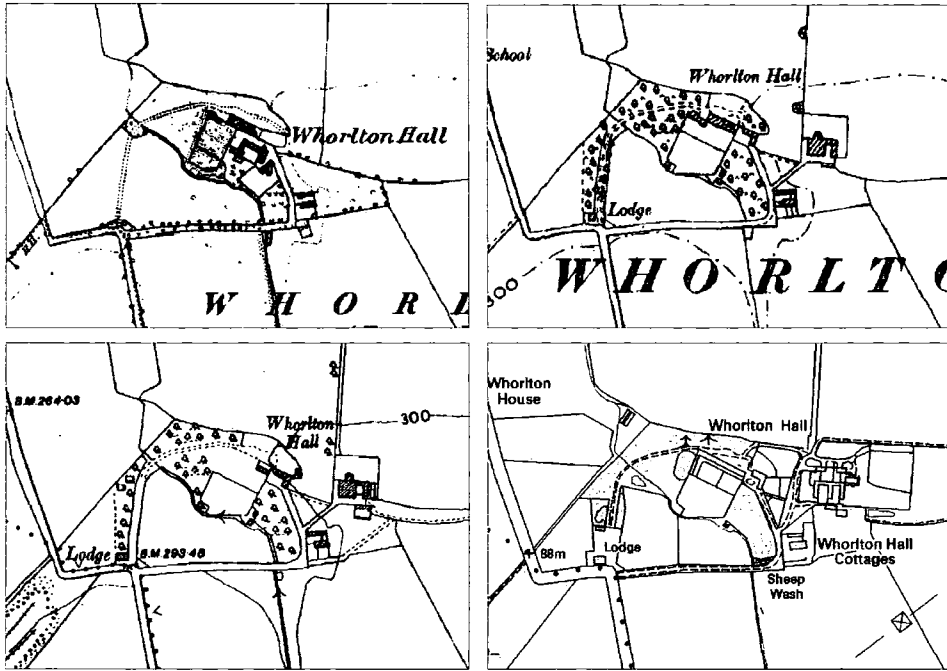


Fig. 194 The development of Whorlton Hall. The top left plan is Ordnance Survey first edition of 1858. The top right plan is the second edition of 1898. By this time some of the ancillary buildings next to the Hall have been demolished and a new home farm and gate lodge had been built. The bottom left plan is the fifth edition of 1960. The Hall had been reduced in size and the workings of North Walbottle Colliery had encroached up to the south-west corner of the estate. The current map shows a totally new Whorlton Hall. Only the cottages, the lodge and part of the farm remain of the original complex.

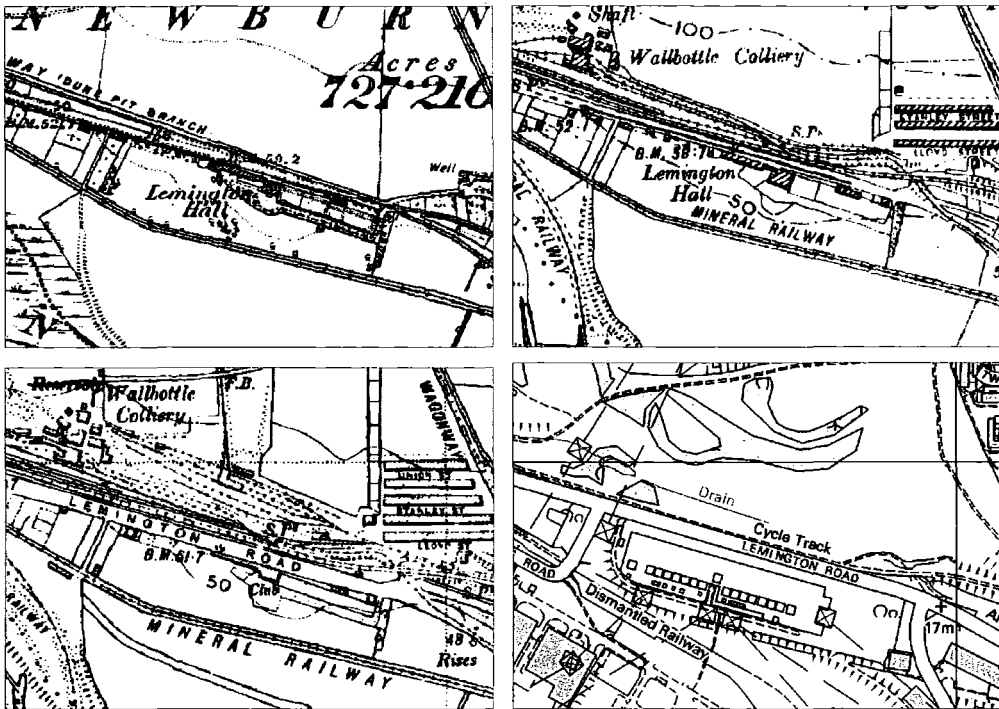


Fig. 195 The development of Lemington Hall. The top left plan is Ordnance Survey first edition of 1858. The building lies between two colliery railways, where once open countryside would have surrounded the grounds. The house appears to have had formal or walled gardens to the east. The top right plan is the second edition of 1898. The environs of the Hall had become more urban with the construction of terraced houses to the north-east and the sinking of Percy Pit to the north-west. The bottom left plan is the fourth edition of 1940. The Hall is shown as a club. The gardens appear to have gone. This was then a heavily industrialised area with yet more railway sidings and coal workings to the north and south-west. It was no place for a country house. The present map, lower right, shows the Hall has gone and replaced by an extensive electricity substation. Whilst there have been new industries to the south, Percy Pit has been reclaimed and a cycle track follows the line of the former railway.

The only surviving grand houses are those in Walbottle village, undoubtedly due to their protection as listed buildings. Walbottle Hall demonstrates changing fashion. The earliest part is brick-built, probably of locally manufactured bricks. The nineteenth century addition is stone-built in the popular gothic style (fig. 361).

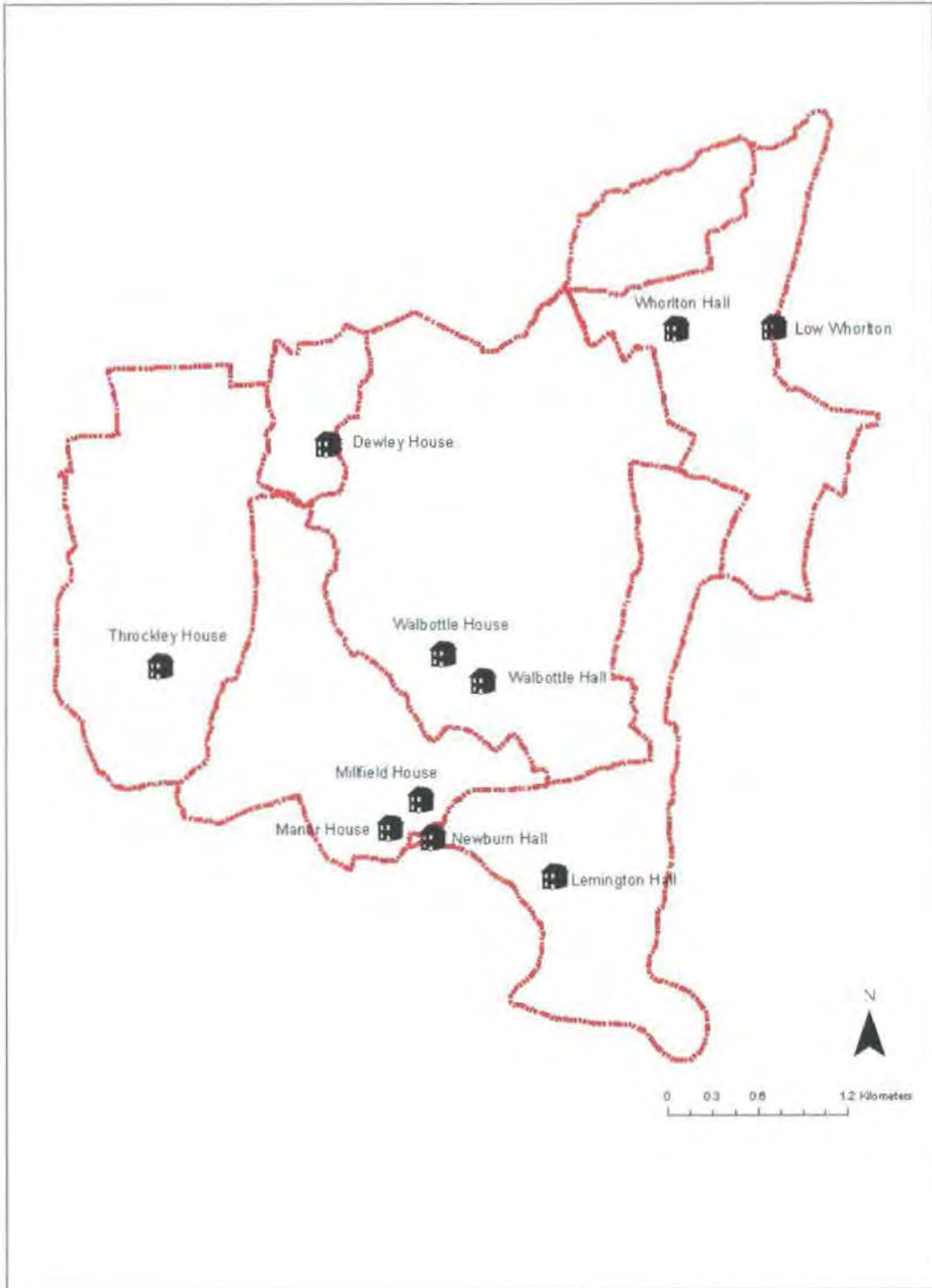
The landlord of all of these country pads was the Duke of Northumberland, who leased out these palatial properties (like the land, coal pits and fisheries), for rental profit. Some of the tenants were senior estate administrators such as the Erringtons. Others, like James Colbeck, Joseph Lamb and John Spencer were local industrialists. For the landowner and tenant, these extravagant country houses, some set in their own gardens, were stamps of authority on the landscape.

The houses in the study area do not have grand pleasure-grounds such as that enveloping nearby Woolsington Hall (eighteenth century and a grade two Registered Historic Park). However the grounds of Whorlton Hall had the familiar plantations of trees, a carriage driveway and entrance lodge and Lemington Hall seems to have had an avenue of trees and walled gardens.

Apart from the two properties in Walbottle village, these country piles were built outside the former medieval cores, close to the occupier's industrial plant (Lemington Hall was only a short distance from the glassworks and Sugley House walking distance from the Iron Works). Most were close to a source of building stone (Walbottle House and Hall and Throckley House all lie within walking distance to a sandstone quarry) and close to the transport links of the main roads.

The earliest houses, at Whorlton, are in fact pre-industrial and originally enjoyed a isolated location within the moor, later enclosed into arable fields. However as coal pits and waggonways began to scar the landscape, these properties too were adopted by industrial magnates operating nearby complexes.

Fortunes changed, and like the medieval Newburn Hall and manor house, many of these houses are now lost, the only record being a small collection of photographs in the local studies library. However the two surviving houses at Walbottle go some way to remind us that the Newburn area at the peak of industrial productivity was prosperous and sought after by the gentry.



*Fig. 196 Location plan of the grand houses in the study area.
Newburn Hall and the manor house are discussed in section 8.1.
Dewley, Throckley House and Low Whorlton are discussed as farms in section 8.2.*

Chapter Nine

Conclusions

As early as 1977, Roberts warned that we live at a time when our power to destroy earlier landscapes is greater than ever before (Roberts 1977a, 198). He went on to say that eighty percent of the population then lived in urban areas, which have swallowed up old villages, farmsteads, woods and fields (Roberts 1977a, 14). To a degree this is true of the study area. However this work has shown that despite continuing urbanisation, elements of relict historic landscapes, which date back to the earliest periods of settlement, do survive within the former extent of Newburn manor and in fact the modern landscape has been influenced greatly by the past. Moreover this thesis, in analysing the agricultural and industrial connection between the landscape, villages and town, is a significant contribution to the inter-relatedness of communities and landscapes at the heart of major industrial growth in Europe.

This research is important because although landscape archaeology is an active field of research, relatively few similar studies have been undertaken in the north-east thus far, and of those carried out, more work relates to the Northumberland uplands than the lowlands (Petts with Gerrard 2006, 90). The NEEHI study of the Durham landscape (Dunsford et al. 2003; Britnell 2004; Roberts et al. 2005) is comparable, although this is on a much wider scale and in a far more rural setting. This dissertation employs a technique akin to the retrogressive studies of Tynedale (Tolan-Smith 1997) and Alnmouth (Bettess 1994; Bettess and Bettess 2004) and these areas are similar in size. Sill's thesis on Hetton-le-Hole (1974) compares well as a study of another Tyne and Wear coal-mining landscape. Other regional studies are by Heppell and Clack (1991) who surveyed the 'townfields' of Sherburn and Shadforth in Durham and The Archaeological Practice's historic village atlas (2004) of the Northumberland National Park. HLC projects are currently ongoing in County Durham and Northumberland. Further afield the findings of this dissertation might be compared with the Merseyside

HLC Project (2003-6), where urban blocks of houses respect former field divisions. Other urban studies include Leeds (Beresford 1957, revised 1971) and Birmingham (Skipp 1970, 1979), both written a long time ago. This thesis is an archaeological approach, whereas many previous landscape studies have been undertaken by geographers or landscape historians.

It is clear from this research that there were two major influences of change on the fields of the study area, enclosure by agreement and industry, and both of these phenomena occurred in the eighteenth century.

9.1 Impact of enclosure

Enclosure, as discussed in section 3.5, had several consequences. The pattern of agricultural fields which survives today largely reflects that created by enclosure in the eighteenth century, with subsequent amendments in the nineteenth and twentieth centuries. At the point of enclosure, the open fields with their furlongs and strips along with the manorial pasture, meadow and commons were replaced by geometric hedged fields, demonstrating that straight rectangular fields were in place well before the widespread use of parliamentary enclosure (Yelling 1977, 131). However it has been demonstrated in this research that in places sinuous field boundaries, reflecting the former pattern of medieval oxen-drawn ploughing, have remarkably survived.

The method of enclosure in Newburn manor was largely by agreement (between all of those with common-field rights), which was the common form of enclosure in Northumberland and Durham in the seventeenth and eighteenth centuries (Yelling 1977, 17, 19). Indeed, the north-east as a whole embraced this type of 'general' enclosure rather than Parliamentary Act (Yelling 1977, 19). Enclosure by agreement

was also widespread in the Midlands (Fox and Butlin 1979, 74). Turner (1984, 16) reported that across Britain as a whole parliamentary enclosure became the dominant method of enclosure by the mid-eighteenth century. This is certainly not the case for Northumberland.

The term 'piecemeal enclosure' is defined by Yelling (1977, 6) as enclosure by any method that did not involve all of the common-field proprietors acting together. It should not be confused with 'partial enclosure', which refers to those acts of enclosure which took place gradually or step by step (Yelling 1977, 6). Newburn, Walbottle and Butterlaw Common (AC O/xviii/1) for example was not enclosed in one stage. Section 3.4 discussed the fact that part of the land was divided up by 1619 (AC O/xviii/2; SH A/ii/11a) amongst three tenants. Complete enclosure had been achieved by 1767 (NRO Sant/Beq/9/1/1/24). The enclosure of a relatively small part of such a large expanse of common waste was probably not opposed because enough land was left open for others with rights of common (Butlin 1967, 159).

The introduction of severalty farming often accompanied enclosure and leasehold replaced customary tenure, and these holdings were worked from farms outside the villages (Evans and Jarrett 1987, 201). Before enclosure, farms stood on the village street in order that they were close to the surrounding open fields throughout which the individual's allotted strips were scattered. Once the scattered strips were merged into a complex of consolidated fields, it made sense for the farm to move out from the village street and into the related holdings.

Section 2.1 suggested that the physical movement of farms and changes in the method of tenancing the land, was probably the cause of the demise of Butterlaw village, as the farms were moved out of the settlement and into their allotted fields (Wrathmell 1975, 200, 203), and it was possibly also the cause of Dewley's shrinkage from vill to

farmstead, when the manorial waste was divided into arable fields and rented to a single tenant (section 2.2). A similar process occurred at the villages of West Whelpington, Kirkwhelpington and Kirkharle in Northumberland in the late seventeenth and eighteenth centuries. This resulted in a decrease in the size of the three villages, and in the case of West Whelpington, total abandonment in around 1720 (Evans and Jarrett 1987, 201). Wrathmell (1975) stated that whilst the dispersal and amalgamation of farmsteads in Northumberland commonly caused the depopulation of villages, it did not inevitably lead to their desertion. The new enclosure period farms built on the former common at Newburn, Ann Cargree's House, West Whorlton and Red Cow formed part of the new township of Whorlton, which was created in the eighteenth century.

By the nineteenth century only Throckley Fell remained to be enclosed by Parliamentary Act (Wrathmell 1975, 202, 208; section 3.6) either because an agreement could not be reached amongst those with rights associated with the common land or because its enclosure was opposed. Butlin (1967, 160) stated that where the common waste was small in size, those with rights of common often objected to its enclosure for arable. Enclosure by agreement had preceded with some speed across the arable, meadow and pasture fields, leaving only Throckley Fell to be dealt with by Parliamentary Act (Yelling 1977, 19). In Durham and Northumberland most enclosures by agreement up to 1750 had been of open field arable, and that enclosed by statute was common and waste (Turner 1984, 26; Butlin 1973, 93).

This situation, where only the common land remained to be enclosed by parliamentary enclosure, occurs elsewhere. In Somerset for example, the irregular field system of Kingston Seymour was created by gradual piecemeal enclosure, but Mark Moor was enclosed by Parliamentary Act (Rippon 2004, 2). Similarly in Puxton on the Severn

Estuary, Caldicot Moor was enclosed by Parliamentary Act, whereas land to the east and west had been enclosed gradually on a piecemeal basis (Rippon 2000; 2004, 87).

Enclosure of waste as a phenomenon had spread north from North Riding to Durham to Northumberland (Tate, 1946, 42, 43). Throckley Fell was enclosed considerably later (the Act was dated 1816) than the common land nearer the coast (that in Tynemouth was enclosed in 1788, Killingworth Moor in 1790) but it was not the last vestige of waste to be enclosed in this area as Prestwick Carr was not enclosed until 1853 (Tate, 1946, 42, 43). Over 85% of parliamentary enclosure was complete by 1830 (Turner 1984, 17).

Enclosure paved the way for agricultural improvement. Northumberland was one of the most advanced agricultural regions in England (Williamson 2002, 148) and the study of agricultural practice in chapter three and farms in chapter eight has shown that in Newburn manor fields were being improved, farms were being rebuilt and money was being spent on machinery. Today 26% of the total number of farms are still working – Dewley, Newburn Grange, Throckley North Farm, Throckley House and Fell House. The remainder are victims of the decline in British agriculture and of urbanisation. Fine farm buildings at Butterlaw, Walbottle, Dean House and Whorlton Grange have been converted for residential use.

During the enclosure period it was not necessarily the farmer's choice to move out of the village and into the new fields. It seems that in most cases the labourer, cottager, farmer and small landowner had little say in the political and administrative procedure which brought about enclosure because this was arranged by the main landowners (Yelling 1977, 99). However sometimes tenants agreed to the enclosure under pressure or were able to bargain the terms of enclosure (Yelling 1977, 53 quoted examples from Leicestershire). The Chancery Decrees of the seventeenth century set

down the agreements between landlord and tenant. For instance a decree of 1664 set out the arrangement agreed between George Lewen and Elizabeth Radcliffe in Throckley (PRO C 10/82/67).

9.2 Impact of industry

The processes of industry here have been proven to be immensely important, indeed the beauty of this map regression study is that it illustrates the early industrialisation of the immediate hinterland of Newcastle, a phenomenon which is characteristic of this region and had repercussions throughout the north-east (Roberts and Wrathmell 2000, 61).

To the question 'has industrial activity obliterated all evidence of the rural countryside?' the answer has to be firmly 'no'. Documentary evidence suggests that woodland was almost certainly felled for industrial purposes, reducing native tree cover to the denes. The construction of the Military Road presumably destroyed the upper parts of Hadrian's Wall, although the lower courses and foundations survive under Hexham Road and are today protected as a Scheduled Ancient Monument (SAM 28). However, field boundaries which pre-date the Industrial Revolution and may be medieval in date have been proven to survive. One of the reasons for this is that eighteenth century industry was on a smaller scale and was therefore less destructive than that of the nineteenth. Eighteenth century coal pits for example, would have been relatively shallow workings. They were abandoned when worked out and now almost no trace survives, apart from a few tree-covered hillocks above former mine shaft upcasts. Once the shallow coal had been exploited the land returned to agricultural use, which is clearly demonstrated by the post medieval ridge and furrow earthworks which survive alongside and respect the course of some of the former colliery waggonways.

Nineteenth century industry was far more extensive and damaging than that which preceded it. River improvement works have destroyed all evidence of medieval mills, fisheries and the ford at Newburn village. This river work was instrumental in providing developable land where there were once marshes and sands, allowing the extension of industrial complexes like the steel works rolling mill, and allowing ships to be floated down river and to be built further up the Tyne. However it also cut off the Lemington Gut causing the industries of Lemington to decline.

An extensive network of nineteenth century colliery mineral railways, many of which overlay earlier 'Newcastle Roads' has influenced the alignment of field boundaries, public footpaths and even the design of modern housing estates. Those early water mills at Newburn, which survived the floods of the stream, were undoubtedly destroyed by the steelworks which were located on the same site and Newburn Hall was demolished when the steelworks closed. Quarries, brickworks and collieries destroyed agricultural land, and in the case of Throckley, the medieval village literally disappeared under a sandstone quarry and the settlement shifted to a crossroads on the main road.

Industry transformed agricultural life. In the case of Newburn the contrast between the two-row historic core and subsequent industrial growth is clearly visible on aerial photographs and through mapping. Throckley demonstrates better than anywhere the change in building material; early housing on Hexham Road is stone-built with later dwellings to the rear in brick. Farming and fishing villages developed into industrial settlements. Coal mining and quarrying helped develop Whorlton, which did not exist before the seventeenth century, into an ecclesiastical parish with a parish church and school, but it failed to develop into a post medieval village core because the industrial workers already lived in rows close to their place of work. Lemington glassworks and ironworks caused the staith-side hamlet of Lemington, which probably grew up near to the sixteenth century house and water mill, to prosper and grow into a vast suburb of

terraced workers' houses. Colliery companies created a brand new settlement at Blucher village. An expansion in specialist industrial villages like this is typical of south-east Northumberland and east Durham (Petts with Gerrard 2006, 89). Winlaton Mill, created to house the workers at Crowley's ironworks (Gateshead Council 1992) is another local example, but unlike those settlements in the study area, Winlaton Mill has been demolished and rebuilt on another site.

Map regression demonstrates that destruction by industry has been considerable since 1960. The visual impact of modern opencast mining at Dewley and Whorlton has been revoked, the land now reinstated and landscaped, but this type of mining had earlier removed all trace of Dewley Mill, the earliest site of which documentary sources suggest may have been medieval in origin and may well have been a rewarding archaeological excavation comparable with Tamworth watermill (Rahtz and Meeson 1992) or Corbridge (Snape 2003). Road construction of the A69 truncated Cutty Coats and destroyed East Dewley, both possible candidates for the site of Dewley medieval village. In Newburn, the village green has been destroyed by the modern high street and the manor house has been demolished. Elsewhere the construction of council housing and industrial estates has eradicated field boundaries, farmsteads and country houses. Walbottle village was itself almost entirely rebuilt in 1960s. River pollution is said to have destroyed Newburn's longest lasting industry, fishing.

Today the impacts of industry are being reversed. Whilst this is good news for the local population, industrial archaeologists mourn the loss of archaeological evidence. Quarries (such as those at Walbottle and Whorlton), which carved great chasms in the countryside, have been in-filled and in some cases quarries such as Throckley, have self-planted as copses. Collieries have either been reclaimed (Blucher), built-over by houses (North Walbottle Colliery and Coronation Pit) or landscaped as public open spaces (Percy and Isabella Pits).

9.3 Archaeological survival

Given this wholesale destruction, the age of surviving field and township boundaries within the study area is surprising. The course of the Ouse Burn has long been the northern boundary of the manor. Although it has been straightened and re-routed, it still roughly follows its course of 1620. The Dewley Burn formed the south-west boundary of Dewley and the New Burn divides Newburn and Walbottle. These streams were probably used as boundaries from an early date. The western township boundary of Throckley survives exactly as it did in 1620 and could be considerably older. As for field boundaries, in Butterlaw only three are truly modern (post 1897). In Dewley and Whorlton most are seventeenth and eighteenth century, dating to the period of enclosure. In Throckley they are eighteenth and early nineteenth century and most extraordinarily the edges of the twentieth century housing estates still respect this earlier pattern. Map evidence in chapter two develops several more specific examples in which ancient boundaries have survived in the most unpromising of circumstances.

Early roads have also been found to survive. Those shown on the 1620 plan, such as the Callerton Road and track at Butterlaw, may be medieval in origin. Hill House Road and Drove Road in Throckley are the most interesting survivals. The former originated as the route north out of the medieval village up to the line of Hadrian's Wall. It continues north as the hedge-lined winding Drove Road, which could have origins as early as the medieval or even Roman periods. Hospital Lane is shown on the 1620 plan leading from Newburn to John Snowdon's house and Hill Head road linked John Snowdon's house to Henrik's. Walbottle Road was also present in 1620, as was the road to the later Hall. Stamfordham Road is the Newcastle to Dissington road on the 1710 map. What is now Ponteland Road is also partly eighteenth century in date, and General Wade's Military Road survives as Hexham Road. Newburn Road was partly laid out in 1620 and was in its present form by 1767, as was the road to Newburn

Grange Farm, even now little more than a track. Other roads such as the curving Coach Road at Throckley, follow the course of earlier field boundaries. The access road to Dewley Farm follows a pre 1767 field boundary and the road was set out by 1848.

Survival of the colliery waggonways is variable. That which once traversed the fields of Butterlaw and Whorlton has gone but Walbottle Moors Waggonway survives because the area has reverted to pasture rather than arable. Other examples, such as the Wylam Waggonway, survive as bridleways or roads. The waggonway system south of the Tyne has been researched in detail by Bennett, Clavering and Rounding (1990). Those routes on the north bank have not been examined in this way. This work goes some way in mapping some of those waggonways using a combination of sources.

Newburn may not be designated as a Conservation Area (Northumberland Gardens estate has the only such designation in the study area), but this study has shown that a wealth of historic buildings have survived urbanisation. The medieval parish church still stands (although devastated by a fire in 2006) and on Newburn High Street the Duke's House and almshouses survive. Elsewhere there are fine religious, recreational and domestic buildings provided by the owners of the collieries, glassworks and steelworks. Now that the colliery spoil heaps have been landscaped and the winding houses and pithead baths long since removed, the facilities built for the workers are a poignant reminder of Newburn's heyday as an industrial 'town'.

9.4 Landowners and agencies of landscape change

In the introduction the question 'Who owned the land and how did this affect the development of the countryside?' was posed. Throughout history the landowner has

decreed how and why the land was utilised in a certain way. Landlords also fashioned the form and determined the fortune of the village (Bigmore 1982, 154; Wrathmell 1975, 18), for instance it was suggested in chapter two that under the Percys, Butterlaw shrank from a village to a hamlet whilst Dewley failed to flourish, and was frequently described as 'waste'.

There are several key periods when land in the study area changed hands and when property was accrued. Chapter one detailed the earliest documented ownership of the manor. The first documented owner was the Earl of Northumberland until 1095 when it was passed back to the King (Dodds 1930, 141). By 1176 Newburn had been granted to the Grenvilles of Gaugy (Crastor 1914, vol. ix, 99) later the Glanvilles (Pipe Roll 22 Henry II m. 83). In 1204 the manor was granted to the Lord of Warkworth (SS vol. cxvii, 276). We know nothing of these families' physical influence on the land of the manor but presumably village self-sufficiency was the main purpose of the open fields, common pasture, meadow and waste. The last Lord of Warkworth (known by now as the Claverings) to hold Newburn was John, son of Robert Fitz Roger (AC UR E/iii/1) who died in 1331/2 with no male heir (Dodds 1930, 144). The King granted Newburn to Henry Percy, second lord of Alnwick (Dodds 1930, 144; James 1955, xii) and he in turn granted it to Ralf de Neville in return for lifetime military service (SS vol. cxvii, 273). When Ralf de Neville died in 1367, the manor returned to the son of Henry Percy (SS vol. cxvii, 433; Dodds 1930, 145).

The Earl was not the only body to have property in Newburn. Before the Dissolution Hexham, Tynemouth and Finchale Priors (SS vol. xlvi, 55-56, vol. vi, 81-2) had land interests here and the priors mined the coal and caught the fish primarily for their own use (SS vol. vi, 81-2; Dodds 1930, 152-153). Before 1095 Robert de Mowbray gave the tithes of Newburn to Tynemouth monastery (Gibson 1846, vol. 1, 51, 62, vol. 2, xiv, No. xvii). Tithes were a tenth of everything and were used to support parish clergy (Harding

1993, 86). The land ownership of religious houses in England had grown through the centuries. At the time of the Conquest, Benedictine monasteries held 15% of the land in England. In the twelfth century new types of monasteries such as the Cistercians and Cathusians were introduced and by the early fourteenth century abbeys and monasteries held nearly 25% of land in Britain (Williamson and Bellamy 1987, 49-50). The Dissolution of the monasteries in the 1530s initially meant that land was taken over by the crown (Williamson and Bellamy 1987, 118-119) but it was soon put onto the market (Wild 2004, 54) to pay for war, and was bought up by prominent families (Williamson and Bellamy 1987, 118-119). This marked the evolution of English landed society (Cantor 1987, 36, 81).

Throckley was already held by the Cartingtons (NRO 622/6; SH A/ii/3a) and Radcliffes of Derwentwater in Cumberland in the fifteenth century (Dodds 1930, 162). In 1716 the estates reverted to the crown and then in 1735 passed to Greenwich Hospital (Bates 1895, 262).

The sixteenth century marked an important turning point in how the land at Newburn was utilised. Under the ownership of the Earl and later Duke (the Earl of Warwick became the Duke of Northumberland in 1552, James 1955, xxvi) of Northumberland, industrial and agricultural practices began to be extended for the first time beyond self-sufficiency and improved for profit. Agriculture gradually became more capital intensive and specialized (Williamson and Bellamy 1987, 119), while fisheries, coal mines and quarrying subsidised the Earl's income (Williamson and Bellamy 1987, 120; Patten 1979, 27).

The manor and its components were frequently leased out to bring in rental income (Lennard 1959, 47). From at least 1499/1500 (SH A/ii/3a), rents were collected from

tenants of the corn mills, forge, fishery, coal mine, quarry and parcels of ground. In 1607 the Earl even received a rent from the ferryman (AC A1/iii/1). Chapter six explained that until the construction of Newburn Bridge in 1893, the fords and ferries were the only means of crossing the river at this point. The manor, manor house, demesne lands and 40 acres of arable, meadow and pasture land, once held by Ralf de Neville, was leased to a Leonard Musgrave in 1528 for a term of 41 years (Knowles 1915, 197). Thomas Musgrave was farmer of the demesnes from 1588 to 1596 (James 1955, 101, 112, 140). The Musgraves seem to have been a well-to-do family from Westmorland. The land passed to a new tenant, Richard Tempest in 1598 (James 1955, 149) and to Henry Bowes in 1605 (James 1955, 160).

The Earls of Northumberland reorganised their estate management in the seventeenth century by switching to leasehold to increase revenue (Hill 1967, 50). When the common between Newburn and Walbottle was enclosed in 1619, it was divided between eight tenants (SH A/ii/11a). In 1622 Cuthbert Hearon took over the 'manor place (SH A/ii/11a) and in 1663 the tenant was a Mr Zacharia Gee (SH A/i/14). In 1700 Sir Orlando Gee (M.P. for Cumberland) was tenant, in 1727 Anthony Isaacson esq. (AC A/i/4) and in 1748 Henry Masterman (AC B/i/10).

The plan of Newburn Common of 1710 (AC O/xvii/2) shows partially enclosed land belonging to the Duke and Duchess of Somerset. Charles Seymour, the sixth Duke of Somerset had married Elizabeth Percy in 1682. In 1703-4 the Duke of Somerset leased the 'Walbottle Improvement' to Edward and George Richardson, yeomen and Michael Longridge (PRO E 214/331). The Duke and Duchess leased their land in Newburn to William and Dorothy Wilson in 1715 (PRO E 140/89/5) and there is a list of their leases in Newburn parish 1745-47 in West Sussex Record Office (PHA/1179).

Some of the Earl and Duke's tenants came from notable local families. The Erringtons (from Denton Hall within the parish of Newburn) feature in rentals from 1499/1500 (SH A/ii/3a). Their holdings in the manor begin with a corn mill (SH A/ii/3a) and Chappell of the Hill (Knowles 1914, 195) and by 1622 Mark Errington was one of number of tenants who held new enclosures on the former common (SH A/ii/11a). Section 2.1 mentioned that in 1557 Edward Errington was bailiff for the Duke of Northumberland (Dodds 1930, 157). In 1562 Gilbert Errington was bailiff (James 1955, 39) and Mark Errington was bailiff from 1578 to 1591 (James 1955, 54-112). Anthony Errington held land at Butterlaw in 1620 (AC O/xvii/1). The Erringtons still held land in the manor in 1663 (SH A/i/14).

The Montagues who later lived at Denton Hall held freehold land in Throckley in 1736 (NRO Sant/Beq/9/1/1/34) and 1769 (NRO 3410/Wat/2/10/11). Another prominent family with land holdings in the manor was the Fenwick family of Kenton. John Fenwick was the Duke's bailiff from 1605 to 1611 (James 1955, 160, 196). In 1607 he held a mill in the manor for 21 years (AC A1/iii/1), land at Butterlaw in 1620 (AC O/xvii/1) and in 1622 he, like Mark Errington held an enclosure from the common whilst Martyne Fenwick held Chappell House (SH A/ii/11a). By 1651 Martin Fenwick also held fisheries, a stone quarry in Butterlaw, an improvement called The Deane and a corn mill (SH A/ii/11b).

The Gray family were a well-to-do family from Newcastle and in 1622 Cuthbert Gray held enclosures from the common (SH A/ii/11a). By 1651 he was the tenant of 'The Intacke' (SH A/ii/11b) and in 1663 William Grey held 'Newbiggin Intacke' (SH A/i/14).

One final tenant family worth noting are the Chickens. Their name appears in rentals throughout the centuries. Robert and James Chekyn are listed as tenants at will in a

rental of 1499/1500 (SH A/ii/3a) and Roger, Edmond, Mary, Anne and Edmund Chicken are listed as tenants by indenture in 1622 (SH A/ii/11a). Seventeenth century chancery deeds relating to Throckley make frequent mention of members of the Lewen family, the Trewfoot family and the Chickens (PRO C 10/25/12; C 10/30/140; C 10/57/174; C 10/82/67) and in 1669 the heirs of William Chicken rented pits in Throckley (NRO ZCK 14/1). The tithe map of Throckley Fell of 1848 (NRO DT 449 M) is interesting because it lists Priscilla Elizabeth Chicken as landowner of an allotment. This newly created field had been sold by William Linsell to James Chicken shortly after the parliamentary enclosure of 1830 (NRO ZGI xxxv/4). The family held land at neighbouring High Callerton in 1841 (AC Bell MSS. No. 333). This chain of events suggests that the Chicken family were able to better themselves over the centuries, from humble tenant to small-scale landowners. Further research on these tenants would be enlightening.

High farming was the culmination of landowner power (Wild 2004, 109). Both the Duke and Greenwich Hospital invested money in farm improvements like mechanisation and rebuilding to increase profits. Under the Duke and Greenwich Hospital, the former manor remained fairly rural, the motive being to make revenue from the agricultural land.

Tithe apportionments show that even in the mid nineteenth century almost all of the study area was owned by the Duke. One does not have to look too far to see the former influence of the Duke. His house and almshouses at Newburn still stand, and there are various other buildings displaying his crescent symbol, such as Crescent Farm, Walbottle First School and Walbottle Farmhouse and street names, such as Duke's Cottages, Percy Terrace and Northumberland Gardens. In the nineteenth century the Duke of Northumberland owned 186,000 acres in the north and the Duke of

Portland 183,000 acres (Musgrove 1990, 286). The Northumberland Estates still own much of the study area today.

The church has long had moral influence on the study area. In 1123 the churches on royal demesnes in Northumberland were granted by Henry I to the new priory of St. Mary at Carlisle instead of Tynemouth (Dodds 1930, 119). A vicar of Newburn was ordained in 1193 (SS vol. xxi, 217) and a rectory was built in Newburn village (Dodds 1930, 120). Chapter three mentioned that in 1268 the vicar of Newburn had raised a sheepfold (Newcastle upon Tyne Records Committee 1922). Carlisle's control of Newburn church continued long term. There is a terrier of glebe lands dating to 1709 (AC A/vii/7). A document of 1744 confirms Carlisle's holdings in Newburn (Cumbria Record Office D RGL 24) and the corn tithes are listed for 1844-5 (NRO ZHE 38a p 79). Evidence for church-owned land however is slim. When Throckley Fell was enclosed in 1830 (NRO ZGI xxxv/4) the Reverend E. Etkins was given a small field and in 1848 the Rev. John Reed leased out the glebe allotment to a Robert Anderson (NRO DT 449M). Glebe lands were the land apportioned to the rector and living of a parish (Rowley 1982, 42) and are detailed in glebe terriers (Baker and Butlin 1973, 18). There is a rectangular enclosure of glebe land and another called 'Glebe Ridge' in Walbottle on the tithe map of 1848 (NRO DT 468 M). These may relate to a parcel of freehold dating back to at least 1620 (AC O/xvii/1). The tithe map of Whorlton of 1843 (NRO DT 509 M) shows a field of probable glebe land named 'Holy Land'. A change of ownership came in 1882 when Newburn was transferred to the new Bishopric of Newcastle (Dodds 1930, 121).

A challenge to the dominant influence of the Duke came in the eighteenth and nineteenth centuries with the development of industry. Early mining had been financed by landowners, but by the eighteenth century large collieries were run by non-landowners from outside the coalfield (Langton 1979, 123). The agency of change was

now the industrial entrepreneur rather than the agricultural landowner. Chapter eight demonstrated how crucial patronage was to the process of transformation from farming village to industrial settlement. Owners of the mines, brickworks and steelworks provided plentiful accommodation for their workers, good quality housing which far surpassed the one-up-one-down whitewashed cottages which they replaced. They also lavished money on grand buildings such as the institute in Newburn and the co-operative store in Walbottle. These were utilitarian structures in that they provided helpful services to the local community, but they were designed on a magnificent scale and built to impress. The choice of location for the institute for example was no accident. It occupies an imposing lofty position on the High Street facing towards the Duke's House and almshouses, and is the first building which catches the eye at the approach to the village. Thomas Spencer was presumably charitable, religious and benevolent but perhaps he also built the institute as a long-lasting monument to his family name. These buildings were commemorative monuments to the achievements and social status of the benefactor. The provision of these new facilities for industrial communities is mirrored elsewhere across Britain. Most colliery villages in the north-east were provided with religious facilities, schools, public houses, institutes and co-operative stores. Similar provision was made in the copper mining villages in Swansea (Hughes 2004, 138). New palatial houses set in landscaped gardens further stamped the authority of the industrial entrepreneur on the countryside.

The final change in land ownership came in the twentieth century (1950s and 1960s) when much of the land was sold by the Duke to Newburn Urban District Council for housing and it is from this point on that more dramatic changes to the landscape occur. The council's needs were to provide services and homes for the residents, hence the resultant building boom. An increase in the provision of housing strangely coincides with a general decline in industrial enterprise (the collieries closed in 1954 and the steelworks in the 1960s). At this time the council was demolishing substandard

dwellings and the housing developments aimed to provide quality alternative living accommodation.

One must not over-emphasise the power of the landowner too much however, as in some circumstances events were beyond their control and there were other agencies of change. Chapter two explored the possibility that during the medieval period the Scottish wars (which occurred from 1297 to 1328 then intermittent until the end of the fourteenth century), disease and other factors may well have precipitated the demise of Dewley village. During the nineteenth century, despite improvements made by the Duke, farms like Dewley failed to profit. This was almost certainly due to the agricultural depression which swept the country as a whole.

9.5 Key themes

For ease of discussion the evidence has been divided into key themes. However it is clear that it is impossible to divide the landscape between the industrial and agricultural. One cannot discuss the landscape in terms of industry without discussing agriculture and it is impossible to separate building evidence from either commerce or farming. Yelling (1977, 36) stated that the growth of towns and industries was associated with increased commercialisation in agriculture. The themes are all inter-linked. Farmers often dabbled in industrial enterprises, and industrialists commonly lived on farms. Cutty Coats Farm for instance appears to have had a strong link with the lead industry. The agricultural revolution and 'High Farming' would not have occurred without enclosure, and the mechanisation of farms like Whorlton Grange depended on industrial developments like the engine house. Water mills were used from at least the twelfth century to grind the corn, and the same technology later adopted by industrialists to grind metal files and flint for pottery. It is significant that

Spencer set up his infamous steelworks on the site of a medieval water mill. Quarries and brickworks provided the building materials for workers houses.

Chapter eight demonstrated the close connection between industry and settlement development. Without the steelworks, Newburn would probably not have developed beyond the confines of its historic core. The addition of terraced workers housing, nonconformist chapels, schools and public houses was directly linked to the growth of Spencer's works. Lemington and Blucher would not have developed at all without the glassworks, ironworks and Blucher Pit.

9.6 Limitations of this work

This work of course has limitations which must be recognised. Firstly it is a desk based exercise. What additional evidence would archaeological fieldwork, survey and excavation add to the equation? Archaeological excavation across former field boundaries could demonstrate an even earlier origin than is possible to suggest with cartographic sources. There is also the potential for environmental work and scientific dating techniques on such boundaries similar to the soil analysis used at Shapwick (Aston and Gerrard 1999). Geophysical survey could be usefully employed in Butterlaw Crofts and Greenes to see if any subsurface remains of the village survive.

Where modern settlements continue on medieval village sites, such as Newburn, Throckley and Walbottle, there is little opportunity for excavation (Aston and Rowley 1974, 21) apart from when developments are proposed. The opportunity for archaeologically excavating the site of East Dewley with the aim of locating Dewley medieval village has been lost as this lies under the A69 dual carriageway, but there is

scope for excavating the site of Cutty Coats. Excavation of the sites of early waggonways has already proved invaluable at Throckley Middle School (Pre-Construct Archaeology 2003a) and on the Wylam Waggonway (Brogan 2004) and there are numerous other examples described in chapter seven which would benefit from similar investigation.

It was beyond the scope of this dissertation to undertake surveys of the buildings. The parish church is complex and multi-period. It has not been studied in any detail since Hodgson (1895, 246), Nowell (1910), Dodds (1930, 118-131) and Grundy et al. (1992, 405-6). Interpretations change with time. Grundy et al. (1992) described 'quasi-Saxon' features at Newburn church, but some church features identified as Anglo-Saxon workmanship by Taylor and Taylor (1965-78) are now considered to be Norman (Gem 1988, 24). It is time for a re-examination of the fabric of Newburn church, and the repairs needed after the tragic fire of 2006 have to a degree provided this opportunity. Three twelfth century grave slabs have recently been found incorporated into the church tower during the repair work (Chronicle Extra, 18 April 2007). Surveys of farm buildings often prove fruitful to illustrate the development and phasing of a farm, particularly its period of mechanisation. Detailed examination of the buildings at Dewley and Butterlaw for instance would ascertain if the farms were totally rebuilt or extended and altered.

Newburn manor no longer exists, but it is as convenient and relevant a study area as an ecclesiastical parish. Studying the manor has enabled a discrete area under the control of a single lord to be researched and the fact that documentary sources often refer to the manor as a whole is advantageous. The disadvantage is that the boundaries were frequently in dispute. Although Throckley was said to be within the manor, it was controlled by a different landowner. The township boundaries were not

formally set out in 1620 (AC O/xvii/1) but the field pattern can be laid out to fit the boundaries laid out in the nineteenth century.

Although the townships which made up the manor were examined individually in chapter two, they were not separate entities and would have interacted. The inhabitants would have depended equally upon the pastureland at Butterlaw and Whorlton, the arable fields of Newburn and Walbottle, the waste in Dewley and other common land, and the woodland in Throckley for their subsistence and construction needs. Equally Newburn manor did not exist in isolation. This research has discussed the relationship between the study area and Newcastle, which is discussed in more detail in section 9.6 below.

This has only been a restricted area of study. Would a larger study area change the findings? A suggestion for further research would be to see if the methodology of this study can be rolled out into other areas on Tyneside and beyond. Would similar results be achieved?

The main period of discussion has had to be that which is covered by cartographic evidence because this was always intended to be a desk based exercise. Prehistoric monuments such as ditched enclosures (HER 190, 194, 1317, 1318) have not been discussed. The importance of the prehistoric landscape is acknowledged and would be a worthy topic of future research. Archaeological evidence is likely to be restricted to find spots and further crop marks. Dewley Hill has survived only because it is Scheduled and opencast mining will undoubtedly have destroyed any associated prehistoric field system outside the Scheduled area. Regrettably perhaps, little mention has been made of Hadrian's Wall, arguably the most important archaeological site in the study area. Again, this could form a separate study. It can be stated that no co-axial field systems have been noted here. One would expect such a system to consist of a

pattern of rectilinear fields with boundaries aligned north-south, bearing little resemblance to the medieval fields and not respecting township boundaries, roads which do not link medieval settlements, and boundaries crossed by later features such as Roman roads (Williamson; Bassett; Muir). Surviving field boundaries in the study area however have been shown to respect the line of Hadrian's Wall (although they cross the Vallum and northern ditch) and are thus later in date than the prehistoric and Roman periods.

Finally, there are certain questions which this study cannot answer. Documentary sources advise us that there was an early medieval settlement at Newburn and circumstantial evidence suggests that this possibly superseded an earlier settlement at Walbottle. No Anglo-Saxon features are immediately recognisable in the landscape, although perhaps the township boundaries echo earlier estate or administrative divisions. Archaeological excavation could potentially determine where these settlements were located, assuming that archaeological remains survive. It must be noted that evidence for early medieval settlement in the North-East is patchy (Petts with Gerrard 2006, 63; Loveluck 2002). At Newcastle for instance, it is not known where the population of the seventh century cemetery lived and at Monkwearmouth monastery the extent of the surrounding civilian settlement is not known.

9.7 Summary

This work has shown that Newburn manor was made up of six townships (Dewley being part of Newburn Hall). Within the manor there were two medieval hamlets, Butterlaw and Dewley, both of which had probably been reduced to single farmsteads by the seventeenth century. Here is an example where the shrinkage and desertion of these small settlements went hand-in-hand with the urban expansion (Petts with

Gerrard 2006, 89) at the three sizeable medieval villages, Newburn, Walbottle and Throckley.

Newburn was a failed early Norman borough, almost certainly because of its proximity to the thriving Newcastle. Daniels (2002, 185) described 'undeveloped boroughs' as those which had a charter, but were never destined to be an economic success. Unlike most boroughs which failed (Daniels 2002, 185), Newburn was well located on a riverine communication route, but Newcastle, which had been granted borough status between 1100 and 1135 (Beresford and Finberg 1973; Daniels 2002, 188), was better located on a more navigable stretch of the river, had a quayside and had had an established river crossing since Roman times (bridge of Pons Aelius). Newcastle was a great port and was the third wealthiest town in England in 1334 after Bristol and York (Musgrove 1990, 105). Newburn could not have competed with the economic success of the markets of Newcastle. Similarly Tynemouth failed to grow due to the close proximity of North Shields market and the economic success of Newcastle. When it ceased to be recorded as a borough around 1201, Newburn retained an important relationship with Newcastle as an agricultural supplier. Towns relied on the resources of the countryside and so the fortunes of town and village rose and fell together (Bigmore 1982, 154).

There is a marked contrast between the historic landscape of Butterlaw and Dewley, where changes have been minor and gradual, and the rest of the study zone. These settlements historically were deserted or shrunken, their fields were avoided by nineteenth century industry (although not by twentieth century opencast mining) and today they remain agricultural. Here the fields are protected from housing developments by 'greenbelt' policies (UDP GB1). By comparison, Newburn and Newburn Hall, the most developed townships, have seen much of their arable fields disappear under housing in recent decades.

The key aims of this dissertation have been achieved. The appearance and development of the modern landscape has been explained by piecing together a vast array of documentary and cartographic material and interpreting the evidence through an archaeological approach. In what may appear to be almost completely industrial and post-industrial settlements, identifiable boundaries have been traced back to the very beginning of settlement. The former extent of Newburn manor is historically rich and despite the influences of modern industries and urbanisation, the form of historic fields, settlements, buildings and routeways have withstood the test of time.

Of particular interest is that within the artificial confines of what was Newburn manor is clear evidence for the process of early industrialisation of the immediate surroundings of Newcastle upon Tyne. The town relied on this industrialisation to supply its needs, and Newburn needed the business from the town to survive, hence theirs was a symbiotic relationship. Local residents in the Newburn area today may have no concept of the connections which this work has shown still exist.

Bibliography

Primary Sources - Deeds, documents, maps and plans

Where documents referenced in the text are not listed here, they have been quoted from Dodds (1930).

Alnwick Castle archives

Class A, Div. i, No. 1	Survey of Barony of Newburn etc and grants from the De Veseyes – continuation of Clarkson’s survey begun in 1567
Class A, Div. i, No. 4	Rental 1727
Class A, Div. i, No. 14	Rental 1663
Class A, Div. iii, No. 1	Stockdale’s Survey 1607
Class A, Div. iv, No.2	Mayson’s Survey 1613
Class A, Div. v, No. 7	Mayson’s Survey of possessions of Right Honorable Henry Earl of Northumberland, 24 June 1622, Lordship of Newburne including Walbottle and Butterlaw
Class A, Div. vi, No. 2	General survey and rental as supposed by Francis Anderson including the Manor of Newburn
Class A, Div. vii, No. 6	Survey and terrier of the several fields in Walbottle measured by William Shafto February 1647
Class A, Div. vii, No. 7	Terrier of Glebe lands in Newburne and Walbottle taken by William Cuthbertson and Thomas Urwin in March 1709
Class A, Div. vii, No. 8	A note of the quantity of acres in the manor of Newburn taken in the year 1710 by William Cuthbertson
Class A, Div. vii, No. 9	A particular survey of the number of acres within the manor of Newburn in the county of Northumberland 1710
Class A1, Div. iii, No. 1	Rental of Dewley, seventeenth century
Class B, Div. i, No. 2	Rental of manor of Newburn, n.d.
Class B, Div. i, No. 3	Rental 1685
Class B, Div. i, No. 6	Rental and general description of the manor of Newburne 1700
Class B, Div. i, No. 10	Rental 1748
Class B, Div. vii, No. 1	Newburn rental renewed 1678
Class B, Div. vii, No. 2a	Newburn rentals Lady Day 1701

Class B, Div. vii, No. 2b	Rental or particular of the new improvement in Walbottle Common granted by lease for 31 years from Michas 1714
Class B, Div. vii, No. 3	Newburn rental Michas 1724
Class B, Div. vii, No.4	Newburn rental Michas 1726
Class B, Div. vii, No.5	Newburn rental for half a year ending at Lady Day 1756
Class B, Div. vii, No. 6	Newburn rental, n.d.
Class B, Div. vii, No. 7	Rental and call book of Newburn 11 October 1738
Class O, Div. xvii, No. 1	A plan of the manor of Newburn 1620
Class O, Div. xvii, No. 2	Plan of Dewley, Butterlaw and Whorleton Moor 1710 by William Cuthbertson
Class O, Div. xvii, No. 3	Plan of Newburn Burn
Class O, Div. xvii, No. 4/1	Part of Newburn, Throckley and Heddon lands with situation of present wagonways, n.d.
Class O, Div. xvii, No. 6	Reduced plan of Lordship of Newburn
Class O, Div. xvii, No. 7	Unfinished plan of Lordship of Newburn
Class O, Div. xvii, No. 8	Plan of village of Newburn
Class O, Div. xvii, No. 9	Plan of lands intended for French company by Thomas Wilkin, November 1777
Class O, Div. xvii, No. 10	Plan of the town of Lemington by Thomas Wilkin 1802
Class O, Div. xvii, No. 11	Plan of Low Stanners and Dent's Meadows in 1797
Class O, Div. xvii, No. 12	Plan of Low Whorlton May 1809 by John Bell
Class O, Div. xvii, No. 13	Plan of Whorlton Dean Farm by John Bell October 1808
Class O, Div. xvii, No. 14	Plan of Newburn Hall Farm by John Bell 1807
Class O, Div. xvii, No. 15	Plan of Walbottle Colliery by Thomas Bell 1821
Class O, Div. xvii, No. 16	Plan of Newburn Haugh embankment and section 1815
Class O, Div. xvii, No. 17	Old plan of part of Newburn and Walbottle and wagonways
Class O, Div. xvii, No. 18	Plan of part of Newburn showing old colliery wastes
Class O, Div. xvii, No. 19	Plan of the country road at Newburn showing proposed widening on the eastern approach 1834
Class O, Div. xvii, No. 20	Plan of intended village of Newburn
Class O, Div. xvii, No. 21	Plan of farm onstead at Newburn

- Class O, Div. xvii, No. 22 Plan of Lemington Glass Works by Thomas Bell and Sons 1850
- Class O, Div. xvii, No. 23 Plan of land let along with Lemington Glass Works, T. Bell and sons, watermarked 1844
- Class O, Div. xvii, No. 24 Plan of Spetchells Farm and schedule attached, T. Bell and Sons, October 1858
- Class O, Div. xvii, No. 25 Plan of Tyne Commissioners works and Newburn Haugh
- Class O, Div. xvii, No. 26 Plan of the village of Newburn
- Class O, Div. xvii, No. 27 Plan showing land required by Tyne Commissioners for works signed D.J. Messent, 26 September 1893
- Class O, Div. xvii, No. 28 Plan showing position of River Tyne at Newburn in 1895 by Captain Humphrey Bland PE
- Class O, Div. xvii, No. 29 Plan of Tyne Improvement Act 1861
- Class O, Div. xvii, No. 30 Plan of land taken from His Grace the Duke of Northumberland showing Scotswood, Newburn and Wylam Railway, September 1889
- Class O, Div. xvii, No. 31 Lemington Glass Works and premises by Seymour Bell 1882
- Class O, Div. xvii, No. 35 Plans

Cumbria Record Office

- D RGL 24 Letters of dispensation by the Archbishop of Canterbury to the Rev. Erasmus Head, M.A. (Oxon), Chaplain to the Bishop of Carlisle to hold the living of Newburn (Northumberland) in plurality with his present living of Whittingham in that county....

House of Lords

- HL/PO/PB/1/1816/56G3n50 An Act for inclosing lands in the parish of Newburn, in the County of Northumberland, 1816

Lancashire Record Office

- QSP/3022/10 Sutton and Newburn Hall, County Northumberland. Instructions for motion that order of removal of Jane Pike and her family be set aside, 27 April 1835
- QSP/3022/30 Sutton to Newburn Hall. Order of removal of Jane Pike, widow and Catherine, Kenneth and Julia her children, 17 February 1835

Leicestershire, Leicester and Rutland Record Office

DE 1110/202 (Palmer Mss) Copy Royal Grant by letters patent of Charles II to Sir Thomas Hesilrigge and Robert Hesilrigge his brother of the manor of Hardwick Regarding premises in Newburn on Tyne, Northumberland, 27 April 1663

Newcastle City Library Local Studies

Casson, 1804, Map of the County of Northumberland

L942.82 W151N Greenwich Hospital Estates, n.d., Plan of Throckley manor in the County of Northumberland (probably 1805)

Ordnance Survey First edition, 1858, 6" to the mile

Ordnance Survey Second edition, 1898, 6" to the mile (25" to the mile, 1897)

Ordnance Survey Third edition, 1921, 6" to the mile (25" to the mile, 1920)

Ordnance Survey Fourth edition, 1940, 6" to the mile

Ordnance Survey Fifth edition, 1960, 6" to the mile

Northumberland Record Office

Those documents starting with NRO 3410 are holdings of the North of England Institute of Mining and Mechanical Engineers.

ALN UR E III/1 Inquisition on the death of Robert Fitz Roger, concerning the manor of Newborn with the hamlets of Walebottell, Dewlawe & Butirlawe and the free tenants of the town of Throcklawe and of the messuage and lands in Dewlawe, 1309

A ZHE 81 Newburn deeds 1698-1736

DT 341 M Newburn Tithe Map, 1849

DT 342 M Newburn Hall Tithe Map, 1848

DT 448 M Throckley Tithe Map, 1847

DT 449 M Throckley Fell Tithe Map, 1848

DT 468 M Walbottle Tithe Map, 1848

DT 509 M Whorlton Tithe Map, 1847

DT 80 M Butterley Tithe Map, 1847

EP 27 Whorlton St. John, parish records

EP 86/399/11/41 Whorlton church records

EP 149/A	Records for St. Michael and All Angels Church 1660-1990
EP 149/A/44	Photo of St Michael and All Angels Church, n.d.
EP 149/B	Records for St. Mary's Church, Throckley 1891-1989
IDE/1/124	Delaval Mss Assignment of a lease for the residue of a term of 40 years from Sir Robert Delaval knt. To Arthur Delaval, his son for the rectory of Newburn etc. 1603
IDE/1/140	Delaval Mss Lease from Elizabeth Rogers of Newcastle, widow and John Rogers of Newcastle to Grey Neville of Billingbare, Bucks Esq. and Edward Delaval of Dissington Esq. of a farmhold etc. in Newburn ... and lands in Scotswood, 1713
IDE/5/11	Delaval Mss Correspondence from John Carville of Middle Temple to Robert Delaval concerning tithes of Newburn, 9 June 1600
IDE/5/117	Delaval Mss Notes delivered by Ralph Delaval to Robert Delaval concerning rectory of Newburn, 22 January 1606/7
M12/B6	Papers Walbottle Methodist church
M12/B12	Papers Throckley Methodist church
NCB/DL/D/29	North Walbottle Coal Co. Ltd deeds and papers 1906-46
NRO (40) ZRI 25/29	Enclosure Act 1816
NRO 336	Gibson, 1787, Plan of the Collieries of the Rivers Tyne and Wear
NRO 404 (Bell) 214 M 14	Throckley Bounder Hedges, 1758
NRO 404 214/M14	Throckley Fell Division, receiver's books
NRO 407/1-24	Throckley Colliery Co. records deeds 1891-1946
NRO 443	Warburton, 1716, A New Map of the County of Northumberland
NRO 536.1	A Plan of Throckley, dated back 150 years from 1863
NRO 536.2	A Plan of Throckley, 1769
NRO 578/42	Plan of Whorlton Farm Estate 1943
NRO 599	Walbottle Colliery Co. account book 1861-1877
NRO 602/21	Walbottle Colliery 1797-1841, notes by Nicholas Wood
NRO 622/5-6	Deeds relating to Throckley

- NRO 691/1/19 Greenwich Hospital Estates, n.d., Plan of Throckley manor in the County of Northumberland (probably 1805) and c.1824, Plan of Throckley North Farm and Mill
- NRO 691/61/29 Enclosure Act, 1816
- NRO 725/C2/148-9 Newburn Steel Works correspondence 1903-29
- NRO 725/C2/156 Throckley Colliery notebooks
- NRO 725/C2/162c Walbottle Union Pit, handwritten sheet
- NRO 725/C2/189 Newburn Colliery plan 1881-1888
- NRO 725/C2/197 Throckley Colliery 1889 plans
- NRO 725/C2/200 Walbottle Colliery plans 1877-1894
- NRO 725/C54/1/239 Throckley Coalfield correspondence 1892-1918
- NRO 1072 North Walbottle Coal Co. 1899-1904, miscellaneous records
- NRO 1164/17/16 Letter from J.B. Simpson, at the Duke of Northumberland's Mineral Office, Cathedral Buildings, Dean Street, Newcastle to the Throckley Coal Company covering the sending of copies of plans and mineral clauses in conveyances of eight properties in Newburn, North Walbottle, New Engine Inn and Blucher Pit, 1906
- NRO 1412 Photograph of Coronation Pit houses, Old Row, Walbottle, 1908
- NRO 1523/3-6 Cruddas MSS, seventeenth century
- NRO 01876/F/1006 Glass plate negative Newburn church, tower and porch c.1900
- NRO 01876/F/1404 Glass plate negative Newburn church, tower and porch c.1900
- NRO 01876/F/1496 Glass plate negative Lemington Tower c.1900
- NRO 01876/F/2804 Glass plate negative seventeenth century house, Newburn c.1900
- NRO 01876/F/2805 Glass plate negative seventeenth century house, Newburn c.1900
- NRO 01876/F/3313
-3315 Glass plate negative Newburn church c.1900
- NRO 2049/14 An Act for inclosing land in the Parish of Newburn in the County of Northumberland 11 April 1816
- NRO 2100/3/111 Map of Walbottle, n.d.

- NRO 2212/1-6 Throckley Coal Co. records 1873-1947
- NRO 2232/3/6-7 Sketches of Newburn 1884
- NRO 2659/52 Lemington Glassworks account book 1810-1841
- NRO 2860/22 Extracts from Throckley Fell Enclosure Award, 1830
- NRO 3027 History of Newbiggin Hall and Whorlton Grange, 1965
- NRO 3410/Bell/19/447 Throckley Colliery, including plan marking pits, coal seams and dykes, taken from a plan of 1774
- NRO 3410/Brown/1/279 Letter book of William Brown – letter to Henry Masterman regarding a meeting with an agent of the Earl of Northumberland to discuss the renewal of wayleave lease and the Earl's claim to the coal at Throckley, 21 December 1754
- NRO 3410/Brown/2/15 Letter book of William Brown – letter to the Earl of Northumberland regarding the provisions of the will of William Newton and borings at Newburn and Walbottle, 7 February 1765
- NRO 3410/Wat/2/7 Detailed fortnightly accounts for work undertaken at Walbottle Moor Colliery on behalf of the Duke of Northumberland, 21 March 1770 – 8 August 1770
- NRO 3410/Wat/2/7/57 Bell and Brown Colliery Books
- NRO 3410/Wat/2/7/139 Detailed fortnightly accounts of work done at Newburn Colliery on behalf of the Duke of Northumberland, including sinking and drifting, masons, carpenters and smith's work, charges for horses and waggonways and maintenance of fire engines, 1768-1770
- NRO 3410/Wat/2/10/3 Estimate for the alteration of the Throckley Waggonway n.d.
- NRO 3410/Wat/2/10/10 Statement of accounts for Newburn Colliery 12 March 1770
- NRO 3410/Wat/2/10/11 Proposal for lease of Throckley Estate from Edward Montague 25 November 1769
- NRO 3410/Wat/2/10/36 Account of borings in Newburn 5 May 1770
- NRO 3410/Wat/2/10/60 Account of borings at Throckley 24 July 1770
- NRO 3410/Wat/2/10/74 Account of borings at Newburn 31 December 1770
- NRO 3410/Wat/2/10/108 Estimates of working costs for Throckley and Walbottle Colliery n.d.
- NRO 3410/Wat/2/10/130 Account of payments made for wayleaves and watercourses at Wylam, Throckley, Newburn n.d.

- NRO 3410/Wat/2/10/197 Account of borings at Hill Pit, Throckley 1773
- NRO 3410/Wat/2/10/217 Report re previous workings at Throckley, including a winning by a water-driven engine from c.1759 23 May 1774
- NRO 3410/Wat/2/10/227 Opinion by Mr Hudson and Mr Walton re a waggonway at Throckley belonging to Mr Blackett, Bell and Brown, 13 July 1765 and costs re above waggonway 31 December 1771
- NRO 3410/Wat/2/10/230 Estimate of cost for the new winning at Throckley Colliery 10 December 1774
- NRO 3410/Wat/2/10/235 Estimate of cost for the new winning at Throckley Colliery n.d.
- NRO 3410/Wat/2/10/247 Recommendations re drainage at Walbottle Colliery by Nicholas Walton, William Brown and Anthony Waters 12 February 1776
- NRO 3410/Wat/2/10/281 Report re the barrier to be left between Throckley Colliery and Newburn 23 November 1776
- NRO 3410/Wat/2/10/305 Plan of part of Throckley Fell showing houses at Duley Burn n.d.
- NRO 3410/Wat/2/11/4 Account of the depth of pits at Walbottle Colliery n.d.
- NRO 3410/Wat/2/11/25 Estimate of the cost of sinking the Engine Pit at Walbottle Colliery 6 February 1785
- NRO 3410/Wat/2/11/30 Estimate of working costs for Throckley Colliery 4 May 1785
- NRO 3410/Wat/2/11/36 List of farms at Throckley with acreages and rents 30 January 1785
- NRO 3410/Wat/2/11/63 Notes re the various seams of coal in Heddon and Throckley Collieries 5 July 1785
- NRO 3410/Wat/2/11/111 Memoranda re the purchase by Mr Lamb of waggonways at Walbottle and Throckley 4 September 1786
- NRO 3410/Wat/2/11/135 Estimate of the cost of making a waggonway from Heddon Banks to Throckley Waggonway 8 December 1789
- NRO 3410/Wat/2/11/137 Queries re Throckley Colliery including the best methods of working and drawing the coal with estimate of working costs, by George Johnson and Thomas Barnes February 1789
- NRO 3410/Wat/2/12/7 Account of coal worked in Throckley 12 May 1774 to 12 May 1775

- NRO 3410/Wat/2/12/33 Proposal by William Brown for a lease of land at Throckley belonging to Edward Montague
- NRO 3410/Wat/2/12/82 Statement of costs for winning Throckley Colliery n.d.
- NRO 3410/Wat/2/12/85 Recommendations re improvements to the engine and drainage at Walbottle Moor Colliery by William Brown, John Allen, John Barnes and Anthony Waters 12 February 1776
- NRO 3410/Wat/2/12/109 Draft binding agreement with the Duke of Northumberland for work at Newburn and Walbottle Collieries, 9 November 1769
- NRO 3410/Wat/2/13/5 James Waddle and Co. for work at Thistle Pit 23 October 1765, Nicholas Chance, to build an engine house at Delight Pit 29 November 1765
- NRO 3410/Wat/2/13/6 James Waddle, Christopher Simpson and Thomas Featherston for work in Thistle Pit 7 December 1765
- NRO 3410/Wat/2/13/7 James Waddle and Thomas Featherston, for work at Thistle and Trial Pits 17 March 1766
- NRO 3410/Wat/2/13/9 James Waddle for work in Delight and Thistle Pits 1 August 1766
- NRO 3410/Wat/2/13/10 Thomas Bowden to drive a drift from the Dayhole Pit 9 November 1766
- NRO 3410/Wat/2/13/13 James Waddle for work at Thistle Pit and William Pit 4 February 1767
- NRO 3410/Wat/2/13/19 Thomas Brown of Dewley Burn for work at Delight Pit 9 May 1767
- NRO 3410/Wat/2/13/21 Thomas Reed, senior, for work at Catt Pit 9 May 1767
- NRO 3410/Wat/2/13/74 George Dormont of Newburn to work the Edge Pit 8 February 1768
- NRO 3410/Wat/2/13/78 Elias Robson to work the Duke Pit 25 November 1768
- NRO 3410/Wat/2/13/80 Thomas Foster to sink the Bean Pit 24 November 1768
- NRO 3410/Wat/2/25/92 Walbottle Colliery, Wellington Pit, sinking, n.d.
- NRO 3410/Wat/4/12 Award by William Brown re entitlement of Edward Montague and William Archdeacon to the ownership of coal mines at East Denton and Lemington, and re the propriety of working pillars and walls at A Pit and best method of making a trial, 2 October 1765
- NRO 3410/Wat/23a/21 Estate plan of enclosed lands at Throckley, property of Greenwich Hospital, showing pits, 1781

NRO 3410/Wat/23a/22	Plan of workings in the Engine Seam, Throckley Colliery n.d.
NRO 3410/Wat/25/7	Plan of Walbottle Moor Colliery, showing workings in the Engine seam n.d.
NRO 3410/ZA/13/7	Newburn Estate, sinking and boring book, 1753
NRO 3410/ZA/13/8	Walbottle Colliery sinking and boring book, 18 April 1818, 1828, Union Pit, 1810, Wellington Pit, 1813, Coronation Pit 1822
NRO 3410/ZA/13/370	Throckley Colliery, sinking 7 June 1829
NRO 3444/36-67	Deeds re Greenwich Hospital at Throckley 1892-1976
NRO 4196/18-20	Robert Mordue, 1695 and 1789, maps of Northumberland
NRO 4354/1	Walbottle Colliery 1969-85, folder of historical information
NRO 4450/3	Newburn deeds 1790-1821
NRO 4702	Newburn
QRD 8	Award of the division of Throckley Fell, 1818
QRD 9	Award of the division of Throckley Fell, 22 December 1830
QRH/270	Quarter Sessions Highway Diversion highway known as Brick Garth Footpath 1906
QRUP2	Proposed canal from Newcastle to Haydon Bridge passing through East Denton, West Denton, Newburn Hall, Walbottle, Newburn, Throckley, canal surveyed by William Chapman, engineer, 26 September 1796
QRUP/77a and b	Quarter Sessions, Deposited plans of River Tyne navigation 1849
QRUP/105a and b	Tyne Improvement Commission Improvement of River Tyne between the sea and Hedwin Streams in Heddon-on-the-Wall by straightening, diverting, contracting
QRUP/127a	Tyne Improvement Commission
Sant/Beq/5/3/13-16	Plans of Newburn parish
Sant/Beq/9/1/1/6	Plan of Lemington
Sant/Beq/9/1/1/19	Plan of East Denton and Sugley Estate
Sant/Beq/9/1/1/20 and 26	Plan of Lemington farms 1754
Sant/Beq/9/1/1/23	Plan of Newburn estate, eighteenth century

Sant/Beq/9/1/1/24, 25	Thompson, A plan of the Lordship of Newburn belonging to the Duke and Duchess of Northumberland, 1767
Sant/Beq/9/1/1/26	Plan
Sant/Beq/9/1/1/28	Farm in Newburn Lordship c.1770
Sant/Beq/9/1/1/29	Plan of Walbottle Moor Colliery 1771
Sant/Beq/9/1/1/30	Plan of Whorlton Moor Waggonway C18
Sant/Beq/9/1/1/31	Plan of wagonways 1771
Sant/Beq/9/1/1/32	Plan
Sant/Beq/9/1/1/33	Plan of Walbottle Dean 1769
Sant/Beq/9/1/1/34	Plan of the Throckley Estate in the County of Northumberland – freehold lands described within the boundary of this plan formerly belonged to John Rogers Esq. now to Edward Montague Esq., 1736
Sant/Beq/9/1/1/35	Throckley Estate and the workings in the Engine Seam of coal situated in the parish of Newburn belonging to Greenwich Hospital
Sant/Beq/9/1/1/36	Plan of Greenwich Hospital's estates
Sant/Beq/9/1/1/37	Plan of the Inclosed land in Throckley, 1781
Sant/Beq/9/18/7/3/3	Ink drawing of Newburn manor house 1895
Sant/Beq/36/4/45	Measured elevation of manor house 1908
Sant/DEE/1/37/43	Papers relating to Scotswood, Newburn and Wylam Railway 1872-5
Sant/Pho/Sli/11/61	Glass slide drawing of Newburn manor house and its fireplaces
ZAN 18/1-5	Plans of Butterlaw
ZAN 68/1,7,8	Lemington Glassworks 1872-1882
ZAN Bell 10/3-5	Newburn plans
ZAN Bell 14/1-8	Plans of Walbottle
ZAN Bell 20/1-18	Plans of Newburn
ZAN Bell 44.11G	Map of Dewley (n.d.)
ZAN Bell 44/4-15	Plans of Newburn (including Lemington Glassworks and Lemington Staiths in 1790)
ZAN Bell 45/1-6	Plans of Newburn

- ZAN Bell 45/2 Copy of Thompson, J., 1767, A plan of the Lordship of Newburn belonging to the Duke and Duchess of Northumberland
- ZAN Bell 68/3-6, 2 Plans
- ZAN Bell 69/2 Land belonging to his Grace the Duke of Northumberland proposed to be sold to Hugh Taylor Esquire as a site on which to erect almshouses, December 1867
- ZAN Bell 69/3 Valuation reports 1877
- ZAN Bell 69/10 Survey of the Tillage land in Throckley North Farm, J. Fryer, 1802
- ZAN Bell 69/4 Plan of a site proposed for public elementary schools, Butterlaw, 19 November 1875
- ZAN Bell 69/8 Tyne Iron Works notice of sale 1870
- ZAN Bell 70/1-11 plans and correspondence re Newburn Steel Works 1868-1883
- ZAN Bell 71/1 and 72/8 Plans of Newburn Hall
- ZAN Bell 71/2, 4, 7, 16, 18 Newburn
- ZAN Bell 71/7 Particulars of Dent's Meadow Island 5 October 1847, Joseph Stokoe, tenant
- ZAN Bell 71/8 Valuers report on Dewley Farm 1875
- ZAN Bell 71/10 Particulars of Walbottle Colliery Farm 10 November 1880, Edward Rowell tenant
- ZAN Bell 71/11 Particulars of Quarry House, Walbottle and Chapel House Farm
- ZAN Bell 71/17 and 18 Surveys of Whorlton and Butterlaw farms and cottages 1847-1868
- ZAN Bell 72/1 Newburn
- ZAN Bell 72/33 Newburn Hall tithes
- ZAN M13/E16 Sketches and notes of Newburn church 1844
- ZAN M16/B21 Maps of Northumberland - Gerard Mercator, 1595/1607, Northumbria Cumberlandia Dunelmensis Episcopatus; William Hole, 1607, Northumbriae Comitatus; Jan Jansson, 1646, Comitatus Northumbria; Robert Morden, 1676 Northumberland; H. Moll, 1724, Northumberland; T. Badeslade, 1742 A map of Northumberland; Thomas Kitchin, 1749, A new improved map of Northumberland; John Horsley, 1753, A map of Northumberland; J. Cary, 1789, A map of Northumberland

- ZBK/A/1/16 (Blackett (Wylam) Mss Paybills, Peggy and Malley Pit and Tyne Pit, general bills, account of coals led and vended, account of sundry men and boys, accounts for incidental work at colliery, leadings to Northumberland Glass House, smith work, wright work, repairs to waggonway, work wrought at Newburn Farm, repairs to staith quay
- ZCK 14/1 (Langley Barony) Rental for part of the Estate belonging to the Hon. Sir Francis Radcliffe of Weldon, Bart. For two years and a half at Pentecost 1669
- ZCK 14/2 (Langley Barony) Abstract of Rental of the late lord Derwentwater's Estate, 1735
- ZCL 446 Walbottle Coal and Firebrick Co. 1891-1907
- ZCL New Burn Pit, strata OS geol, 1876
- ZGI/xxxv/1 Throckley Fell plan, eighteenth century
- ZGI/xxxv/2 Plans of Throckley 1818-1830
- ZGI/xxxv/3 Notes of allotments, Throckley
- ZGI/xxxv/4 Plan of Throckley Fell, 1830 by William Grace W. Bates
- ZHE 38a p 79 Corn tithes valuation, Newburn 1844-5
- ZHE 60/15 Plan of River Tyne
- ZHE 81 Newburn deeds 1698-1736
- ZMD 40/3 Photo of Dandy horse wagon at Throckley c.1900
- ZMD 83/2 Newburn deed 1703
- ZRI 25/29 An Act for inclosing lands in the Parish of Newburn in the County of Northumberland, 11 April 1816
- ZRI 49/12 Heddon Birks Farm, field book, March 1889
- ZSA 27/1 Throckley Colliery 1864

Palace Green, Archives and Special Collections, Durham University

Meeting House certificates:

- DDR/EA/NCN/2/211/1 8 November 1811, property at Lemington meeting room occupied by Peter Black
- DDR/EA/NCN/2/106a 25 August 1824, property at Donkins Houses, Newburn meeting room occupied by Thomas Mason
- DDR/EA/NCN/2/211/2-4 25 October 1822, property at Tow Hill, Lemington described as a room

- DDR/EA/NCN/2/247/1 5 November 1811, room at Newburn occupied by Mary Maughan
- DDR/EA/NCN/2/247/2 8 September 1813, meeting house at Newburn known as a granary in occupation of George Hall
- DDR/EA/NCN/2/247/3-4 12 December 1832, Wesleyan Methodist chapel at Newburn
- DDR/EJ/CCD/3/1758/5 Will of Robert Craigs of Newburn, pedlar, 1758
- DDR/EJ/CCD/3/1806/5 Goods of George Dormond of Newburn, viewer of collieries, 1806-7
- Public Record Office**
- B E 326/5691 Exchequer: Augmentation Office, ancient deeds, parties Henry [Percy] Earl of Northumberland and Cuthbert Carnaby. Office of receiver and an annuity from the issues of the earl's manor of Newburn [Neyborn] and his other lands in Northumberland, 1200-1592
- C 1/749/37 Held on lease of Edward [Jaye] Prior of Hexham. Alexander Bell of Blaydon, Co. Durham, yeoman v Roger Herryngton of Denton, gentleman, bailiff of Earl of Northumberland's manor of Newburn, 1532-1538
- C 1/880/15 Thomas Ratclyffe v Randolph Shaftowe, gentleman. Detention of deeds relating to Throckley 1532-1538
- C 10/25/12 Henry Lewen v John Trefoot and Michael Chicken, Throckley manor. Bill and answer 1650
- C 10/30/140 George Lewen v John Trewfoot and Michael Chicken, Throckley manor 1655
- C 10/33/112 Court of Chancery, pleadings before 1714, Henry Lewen v Sir Edward Radclyffe, baronet: Throckley, Northumberland. Bill and answer 1650.
- C 10/57/174 George Lewen v John Trewfoot and Michael Chicken, Throckley 1654
- C 10/82/67 George Lewen v Elizabeth Radcliffe, widow, Sir Francis Radcliffe, knight, John Barron and Arthur Robinson: Throckley, Northumberland. Bill and answers 1664
- C 143/396/11 Chancery: Inquisitions Ad Quad Damnum, Henry III to Richard III, to Henry his son, Elizabeth wife of the said son, and the heirs male of their bodies, with remainder to the grantor and his heirs, York. Henry de Percy Earl of Northumberland, to grant the manor of Newburn to the said Henry and Elizabeth as above, 1379-1380
- E 14/331 Lease 1 December 1703

- E 134/12Geo2/East15 Dudley Roger Esq. (Attorney-General) on behalf of His Majesty, informant v Ralph Redhead. Execution (by the defendant) of the offices of bailiff and woodreve or woodward of the manors or reputed manors or messuages etc. of... Trockley otherwise Throckley... being formerly the estate of the late Earl of Derwentwater, and after of his late son John Radcliffe Esq.
- E 134/28Chas2/Mich32 Exchequer Kings Remembrancer, Sir Fras. North knt.. the late Attorney-General, as well for and on behalf of His Ma'tie... Rt. Hon. James Duke of Monmouth v Eliz Countess Dowager of Northumberland, Ralph Montague Esq. and his wife Eliz Countess of Northumberland etc. Concerning the baronies, manors etc of Newbourne... which belonged to the Earles of Northumberland... whether villages called Walbottle, Butterlaw, Dewly and Throcklaw are parts and parcel of such manor... and whether Algernon Earl of Northumberland or Earl Joscelin (father to the defendant Lady Percy) and their ancestors possessed the foregoing manors, 1676-1677
- E 140/89/5 Wittingham v Wilson 1. Deed of 1715 lease of land to William and Dorothy Wilson of Newcastle Upon Tyne by Charles, Duke of Somerset at Newburn and Walbottle, Northumberland
- E 178/4360 Newburn proceedings relating to the boundaries of fishings in the Tyne called "Cryme or Crookhead" and "the Ladyshutt", Chambers v Johnson and others, 1611-1612
- E 214/331 Charles, Duke of Somerset and Elizabeth his wife. Edward Richardson and George Richardson, yeomen of Walbottle and Michael Longridge. Declaration that the lease dated 1 December 1703 made between same parties of lands and tenements known as the Walbottle Improvement, was to be held in trust for the other leaseholders and tenants of the Duke in the town of Walbottle, 4 May 1704
- E 321/40/25 Court of Augmentations and court of General Surveyors, John Grey v Ralph Grey re lease of the coalpits of Bytterlaw from the Earl of Northumberland, 1536-1554
- IR 26/323 Will of Robert Stott, farmer of Cairn House in the parish of Newburn, Northumberland, 25 October 1810
- IR 26/325 Will of George Crow, farmer of Butted Laws in the parish of Newburn, Northumberland, 19 July 1806
- MAF 11/20 Order of exchange of lands under the Enclosure Acts. The Rev. C.E. Blackett Ord as Vicar of Newburn and the Duke of Northumberland, 8 March 1894
- MP1/230 Plan of Throckley, 1736

- MP1/237 Plan of Throckley Fell or Common to accompany enclosure award 22 December 1830 made pursuant to Act of 1816, signed by T. Kell 1830
- MPD 1/114 Map of factories and collieries in area surrounding Newcastle Upon Tyne and the river from the estuary inland to Newburn by T. Oliver of Blackett Street, Newcastle, 21 April 1830
- MR 1/252/4 Sketch of Throckley showing numbered fields a bog and a mill. Drawn by John Willson of Morpeth, early seventeenth century
- SC 6/Henviii/2809 Northumberland ... Walbottle, Butterlaw, Dewley, Newburn acquired by purchase from Henry Earl of Northumberland, 29-30 Hen viii
- STAC 2/27/181 Plaintiff: Henry earl of Northumberland, defendant: Miles Musgrave, Edward Musgrave and John Musgrave – forcible ouster from the manor of Newburn, 22 April 1509 – 28 January 1547

Subsidies 158/1 and 158/6 (1312) quoted from Dodds, 1930

Royal Society

Smeaton/Volume Three/Folio 155, 1776

A catalogue of the civil and mechanical engineering designs 1741-1792 of John Smeaton FRS, Walbottle Engine, Northumberland

Syon House archives (quoted from Dodds 1930 and James 1955)

- | | |
|---------------------------|--|
| Class A, Div. i, No. 4a | Rental 1557 |
| Class A, Div. i, No. 11 | Survey of 1592 |
| Class A, Div. i, No. 14 | Rental 1663 |
| Class A, Div. ii, No. 3a | Cartington's Rental 1499/1500 |
| Class A, Div. ii, No. 11a | Rental 1622 and 1625 |
| Class A, Div. ii, No. 11b | Rental 1651 |
| Class B, Div. vi, No. 2a | Plan of Throckley 1619 |
| Class C, Div. x, No. 2c | Lease n.d. |
| Class J, Div. vii, No. 4a | Agreement between Ada de Balliol and Robert of Throckley 1250 reproduced in a boundary dispute of 1586 |
| Class K, Div. i, No. 5 | Court Rolls 1770 |
| Class P, Div. ii, No. 2Q | Lease of 1602 |
| Class Q, Div. i, No. 1 | Lease of 1589 |

- Class Q, Div. ii, No. 52 Leases 1608-1610
- Class Q, Div. ii, No. 116 Lease of 1615
- Class Q, Div. ii, No. 127 Lease n.d.
- Tyne and Wear Archives**
- 130/1581 Papers relating to Spencer's steelworks
- 140/1 Bargain and sale by Henry Masterman and Elizabeth Harrison to William Brown of $\frac{3}{4}$ part of colliery, coal mines and seams at Throckley and Heddon-on-the-Wall together with staithes, waggonways etc. and messuages, farmholds and stocks of coal at Throckley and Heddon collieries, consideration £3000, 12 May 1759
- 1046/22 Proposal of Mr Swaller and Michael Menham for supply of stone from Throckley Fell at 15/6 per ton, 6 December 1830
- 2076/1 Centenary history of John Spencer and Sons Ltd, Newburn Steel Works 1810-1910
- DT/COP3 Throckley Co-operative Society records 1892-1976
- DX80/1 Account book, Dean House Farm, Walbottle 1850-1874, including details of crop yields and sales, supply of oats and hay to Throckley Colliery
- DX214/1 Fragment of a diary of Richard Brown and his father, colliery viewers. Includes report on Meadow Pitte, Throckley, 3 September 1767
- DX507/21 Doherty, J., 1965, 'I remember', typescript
- DX726/12/1-7 Deeds relating to the division of the estates of Mark and Dorothy Milbank amongst their heirs and beneficiaries under their wills, 14 March 1691
- PA303 The irony of Spencer's Ironworks 1810-1926, from a lecture by C. Taylor, Newcastle Polytechnic, 10 March 1976
- PA1130 Notes relating to the Newcastle and Gateshead Water Company's pumping station at Newburn taken on 10 March 1866
- UD/Nb Local Government Board confirming order for conversion of part of large Northumberland rural district of Castle Ward into Newburn Local Board – comprising East and West Denton, Lemington, Newburn, Sugley, Throckley, Walbottle and Westerhope, signed 2 March 1893

- UD/Nb/20/1-61/55 Walbottle village acquisition of land and property for redevelopment of village 17 November 1953 – 25 March 1965
- UD/Nb/20/1-61/56 Walbottle village gift of land by Duke of Northumberland for redevelopment of village 4 March 1958 – 15 February 1962
- UD/Nb/20/8 Closure of Lemington Railway Station 1959-60
- UD/Nb/20/29 Notes on maternity home and cottage hospital, Newburn 1930-36
- UD/Nb/20/33-36 Mount Pleasant housing stock 1948-1961
- UD/Nb/40/3 Bank Top, Throckley, slum clearance, 1931-39
- UD/Nb/40/13 Cut End, slum clearance, 1931-39
- UD/Nb/40/14 Dewley, slum clearance, 1931-39
- UD/Nb/40/15 Dewley Mill, slum clearance, 1931-39
- UD/Nb/40/19-20 Lemington High Row, slum clearance, 1931-39
- UD/Nb/40/21/22 Slum clearances 1931-39
- UD/Nb/40/28 Newburn Hall Farm cottages, slum clearance, 1931-39
- UD/Nb/40/33 High Square, Walbottle, slum clearance, 1931-39
- UD/Nb/40/35 Water Row, slum clearance, 1931-39
- UD/Nb/40/36 Winning, slum clearance, 1931-39
- UD/Nb/44/1 and 2 Newburn District Council, deposited building plans
- West Sussex Record Office**
- PHA/1179 (Petworth House Archives) list of leases for execution by Duke of Somerset in respect of properties in the manor of Newburn, 1745-1747

Secondary Sources

- Adamson, J., 1973, *80 years ago this month, the urban district of Newburn was created. Next March the district will disappear into the Tyne/Wear metropolitan area*, Northern Magazine, 21 (March 1973), 12-13 (TWAS PA213)
- Allison, J.T. and Walton, A.D., 1989, *Bygone Westerhope*, Newcastle upon Tyne City Libraries and Arts, Newcastle upon Tyne
- Allsopp and Clark, 1969, *Historic Architecture of Northumberland*, Oriel Press, Stocksfield
- Anderson, J., n.d., *The Battle of Newburn 28th August 1640*, unpublished typescript held by Newburn Library
- Archaeological Services Durham University, 2003, *Keith's Coaches, Hexham Road, Blucher, Newcastle upon Tyne – archaeological watching brief and evaluation*, unpublished report held by HER
- Archaeological Services Durham University, 2006, *Newburn Valley View, Newburn, Tyne and Wear – archaeological assessment and photographic survey*, unpublished report held by HER
- Archaeological Services Durham University, 2007, *Segpool House, Walbottle, Newcastle upon Tyne – archaeological desk based assessment*, unpublished report held by HER
- Armstrong, J., 1973, *The history of Newburn*, unpublished typescript held by NCL (L942.82 N535A)
- Aston, M., 1983, The making of the English landscape – the next 25 years, *The Local Historian*, Vol. 15, 6, 323-331
- Aston, M., 1985, *Interpreting the landscape – landscape archaeology and local history*, Routledge, London
- Aston, M., 1989, A regional survey of deserted settlements in west of England in Aston, M., Austin, D., and Dyer, C. (eds.), 1989, *The rural settlements of medieval England – studies dedicated to Maurice Beresford and John Hurst*, Basil Blackwell, Oxford 105-128
- Aston, M. and Rowley, T., 1974, *Landscape archaeology – an introduction to fieldwork techniques on post-Roman landscapes*, David and Charles, Newton Abbot
- Aston, M., Austin, D., and Dyer, C. (eds.), 1989, *The rural settlements of medieval England – studies dedicated to Maurice Beresford and John Hurst*, Basil Blackwell, Oxford
- Aston, M., Hall, T.A. and Gerrard, C.M. (eds.), 1998, *The Shapwick project – an archaeological, historical and topographical study, the eighth report*, University of Bristol Department for continuing education
- Aston, M. and Gerrard, C., 1999, Unique, traditional and charming – the Shapwick project, Somerset, *The Antiquaries Journal*, 79, 1-58

- Atkinson, I. (ed), 2004, *St John's Church, Whorlton – A living history of the church and its people 1866-2004*, booklet
- Austin, D., 1989, *The deserted medieval village of Thrislington, Co. Durham: Excavations 1973-4*, Society for Medieval Archaeology Monograph 12, Leeds
- Austin, D. and O'Mahoney, C., 1987, The medieval settlement and landscape of Castle Eden, Peterlee, Co. Durham: Excavations 1974, *Durham Archaeological Journal*, 3, 57-78
- Ayris, I., 1986, *Stamfordham Road/Whindykes Area, Industrial Archaeological Assessment*, unpublished typescript held under HER 4248
- Ayris, I. and Harbottle, R.B., 1986, *Hillhead Farm, Westerhope*, unpublished typescript held by HER
- Ayris, I. and Linsley, S.M., 1994, *A guide to the industrial archaeology of Tyne and Wear*, Newcastle City Council, Newcastle upon Tyne
- Ayris, I., Nolan, J. and Durkin, A., 1998, The archaeological excavation of wooden waggonway remains at Lambton D Pit, Sunderland, *Industrial Archaeology Review*, 20, 5-22
- Bailey, J., and Culley, B., 1797, *General view of the agriculture of the county of Northumberland*, Sol Hodgson, Newcastle upon Tyne
- Baker, A.R.H., 1976, Changes in the later middle ages in Darby, H.C. (ed.), 1976, *A new historical geography of England before 1600*, Cambridge University Press, Cambridge, 186-247
- Baker, A.R.H. and Butlin, R.A. (eds.), 1973, *Studies of field systems in the British Isles*, Cambridge University Press, Cambridge
- Barker, D. and Cranstone, D. (eds.), 2004, *The archaeology of industrialization*, Maney, Leeds
- Barnwell, P.S. and Giles, C., 1997, *English farmsteads 1750-1914*, Royal Commission on the Historical Monuments of England, Swindon
- Barrington de Fonblanque, E., 1887, *Annals of the house of Percy from the conquest to opening of nineteenth century*, Richard Clay and Sons, London
- Barrow, G.W.S., 1969, Northern English Society in the twelfth and thirteenth centuries, *Northern History*, IV, 1-28
- Bartlett, A., Tyne and Wear Museums, 2006, *Ingersoll Rand, Tyne and Wear – archaeological evaluation*, unpublished report held by HER
- Bassett, S., 2000, How the west was won: the Anglo Saxon takeover of the west midlands, *Anglo-Saxon Studies in Archaeology and History* 11, 107-118
- Bates, C.J., 1886, Heddon-on-the-Wall: the church and parish, *Archaeologia Aeliana*, New Series, xi, 240-294
- Bates, C.J., 1895, *The history of Northumberland*, Elliot Stock, London
- Beckensall, S., 1992, *Northumberland place-names*, Butler, Rothbury

- Bell, M., 1989, Environmental archaeology as an index of continuity and change in the medieval landscape in Aston, M., Austin, D., and Dyer, C. (eds.), 1989, *The rural settlements of medieval England – studies dedicated to Maurice Beresford and John Hurst*, Basil Blackwell, Oxford, 269-286
- Bell, D. and Marshall, M.W., 1996, *Northumbria – kingdom by the sea*, Keepdate Publishing, Newcastle Upon Tyne
- Bennet, G., Clavering, E. and Rounding, A., 1990, *A fighting trade – rail transport in Tyne coal 1600-1800*, Portcullis Press, Gateshead
- Beresford, M., 1954, *The lost villages of England*, Lutterworth Press, London
- Beresford, M., 1957 (revised 1971), *History on the ground – six studies in maps and landscapes*, Lutterworth Press, London
- Beresford, M.W. and Finberg, H.P.R., 1973, *English medieval boroughs – a hand-list*, David and Charles, Newton Abbot
- Beresford, M. and Hurst, J., 1990, *Wharram Percy – Deserted Medieval Village*, English Heritage, London
- Bettess, G., 1994, *Alnmouth – a retrogressive archaeological study of its landscape, economic and social history*, unpublished Master of Letters thesis, University of Newcastle upon Tyne
- Bettess, G. and F., 2004, *The Story of Alnmouth*, Penshaw Press, Cleadon
- Betty, J.H., 1993, *Know the landscape – estates and the English countryside*, B.T. Batsford, London
- Bigmore, P., 1982, Villages and towns in Cantor, L. (ed.), 1982, *The English medieval landscape*, Croom Helm, London, 154-192
- Bird, R.H., 1975, *Cutty Coats Farm, Throckley*, unpublished text held by HER
- Blair, J. (ed.), 1988, *Minster and parish churches – the local church in transition 950-1200*, Oxford University Committee for Archaeology Monograph No. 17
- Blair, J. and Pyrah, C., 1996, *Church archaeology – research directions for the future*, Council for British Archaeology, York
- Blake, J.B., 1967, The medieval coal trade of north east England: some fourteenth century evidence, *Northern History*, 2, 1-26
- Bourne, H., 1736, *The History of Newcastle upon Tyne*, Newcastle upon Tyne, John White
- Bradshaw, F., 1916, The Lay Subsidy Roll of 1296: Northumberland at end of thirteenth century, *Archaeologia Aeliana*, 3, XIII, 186-303
- Brand, J., 1789, *The History and Antiquities of the town and county of the town of Newcastle upon Tyne*, London, White & Son
- Bray, C., 1972, *A Brief History of Glass Making on Tyneside*, Tyne and Wear County Council Museums Service, Newcastle upon Tyne

- Brenan, G., 1902, *A History of the house of Percy from the earliest times down to the present century*, Freemantle & Co, London
- British Association for the Advancement of Science, 1949, *Scientific Survey of North-Eastern England – prepared for the meeting held in Newcastle upon Tyne 31st August to 7th September 1949*, Local Executive Committee
- Britnell, R., 1996, *The commercialisation of English Society 1000-1500*, Manchester University Press, Manchester
- Britnell, R., 2004, Fields, farms and sun-division in a moorland region, 1100-1400, *Agricultural History Review*, 52, 20-37
- Brogan, G, Tyne and Wear Museums, 2004, *Wylam Waggonway, Wylam, Northumberland – archaeological evaluation and watching brief*, unpublished report held by HER
- Brooks, C., Daniels, R. and Harding, A. (eds.), 2002, *Past, present and future – the archaeology of northern England*, Architectural and Archaeological Society of Durham and Northumberland, Research Report 5
- Brooks, P.R.B., 2003, *Where railways are born: The story of Wylam and its railway pioneers*, 3rd edition, Wyam, Wylam Parish Council
- Buckley, F., n.d., Glasshouses on the Tyne in the eighteenth century, *Journal of the Society of Glass Technology*, 27-29
- Buckley, F., 1927, Potteries on the Tyne and other northern potteries during the eighteenth century, *Archaeologia Aeliana*, 4, 4, 68-82
- Burgess, C.B., 1984, The prehistoric settlement of Northumberland: a speculative survey in R. Miket and C.B. Burgess (eds.), 1984, *Between and Beyond the Walls – essays on the prehistory and history of north Britain in honour of George Jobey*, J. Donald, Edinburgh, 126-75
- Butlin, R.A., 1961, *The evolution of the agrarian landscape of Northumberland 1500-1900*, MA thesis, University of Liverpool
- Butlin, R.A., 1964, Northumberland Field Systems, *Agricultural History Review*, XII, 99-120
- Butlin, R.A., 1967, Enclosure and improvement in Northumberland in the sixteenth century, *Archaeologia Aeliana*, 4, 45, 149-60
- Butlin, R.A., 1973, Systems of Northumberland and Durham in Baker, A.R.H. and Butlin, R.A. (eds.), 1973, *Studies of field systems in the British Isles*, Cambridge University Press, Cambridge, 93-144
- Butlin, R.A., 1979, The enclosure of open fields and extinction of common rights in England circa 1600-1750: a review in Fox, H.S.A. and Butlin, R.A. (eds.), 1979, *Change in the countryside: essays on rural England 1500-1900*, Institute of British Geographers, Special publication 10, London, 65-82
- Cantor, L. (ed.), 1982, *The English medieval landscape*, Croom Helm, London
- Cantor, L., 1987, *The changing English countryside 1400-1700*, Routledge and Kegan Paul, London

- Chapelot, J. and Fossier, R., 1985, *The village and house in the Middle Ages*, Batsford, London (translated by Henry Cleere)
- Charlton, P., n.d., *Notes, papers on Newburn and Throckley collected by Peter Charlton*, unpublished notes held by NCL (L942.82 N535C)
- Charlton, P., n.d., *Newburn and its associations*, handwritten notes held by NCL
- Chisholm, M., 1979, *Rural settlement and land use – an essay in location* (third edition), Hutchinson, London
- Chubb, T., 1927, *The printed maps in the atlases of Great Britain and Ireland, a bibliography, 1579-1870*, The Homeland Association, London
- City of Newcastle upon Tyne Community and Leisure Services Department, n.d., *Newburn History Trail*, Tyne Riverside Country Park
- Clark, J., Darlington, J. and Fairclough, G., 2004, *Using historic landscape characterisation*, English Heritage, London
- Clayton, J., 1880, Discovery of a hoard of Roman coins on the Wall of Hadrian in Northumberland, *Archaeologia Aeliana*, 2, VIII, 256-80
- Clephan, J., 1879, The manufacture of glass in England – rise of the art on the Tyne, *Archaeologia Aeliana*, 2, 8, 108-26
- Colgrave, B. and Mynors, R.A.B. (ed.), 1969, *Bede's Ecclesiastical History of the English People*, Clarendon Press, Oxford
- Collingwood Bruce, J., 1805-1892, Handbook to the Roman Wall, I.A. Richmond (ed.), 1966, A. Reid, Newcastle upon Tyne
- Cooke, R., 1987, *Tyne and Wear Inventory of Ancient Woodland*, The Nature Conservancy Council, www.ndad.nationalarchives.gov.uk and www.jncc.gov.uk
- Cookson, J.E., 1989, The English voluntary movement of the French wars 1793-1815: some contexts, *The Historical Journal*, 32, 4, 867-891
- Coulton, G.G., 1925, *The medieval village*, Cambridge University Press, Cambridge
- Cousins, S., 2004, Why hedge dating doesn't work, *Landscape History*, 26, 77- 85
- Cowper, R.A.S., 1970-71, Northumbrian Drove Roads, *Journal of the University of Newcastle Agricultural Society*, 24, 30-33
- Cramp, R.J., 1969, Excavations at the Saxon monastic sites of Wearmouth and Jarrow, *Medieval Archaeology*, XIII, 21-66
- Craster, H.H.E., 1914, *A History of Northumberland*, 10, Andrew Reid, Newcastle
- Crossley, D.W. (ed.), 1981, *Medieval Industry*, Council for British Archaeology, London
- Daniels, R., 1990, Kilton: A survey of a moorland fringe township, in Vyner, B.E., 1990, *Medieval Rural Settlement in North-East England*, Architectural and Archaeological Society of Durham and Northumberland, Research Report No.2, Durham, 33-57

- Daniels, R., 2002, Medieval boroughs of northern England, in Brooks, C., Daniels, R. and Harding, A. (eds.), 2002, *Past, present and future – the archaeology of northern England*, Architectural and Archaeological Society of Durham and Northumberland, Research Report 5, 185-196
- Darby, H.C. (ed.), 1963, *An historical geography of England before AD 1800 – fourteen studies*, Cambridge University Press, Cambridge
- Darby, H.C. (ed.), 1976, *A new historical geography of England before 1600*, Cambridge University Press, Cambridge
- Darby, H.C., 1977, *Domesday England*, Cambridge University Press, Cambridge
- Darby, H.C. and Maxwell, I.S., (ed), 1962, *The Domesday geography of Northern England*, Cambridge University Press, Cambridge
- Davis, S.J.M. and Bullock, A., 1995, The animal bones in Fraser, R., Jamfrey, C. and Vaughan, J., Excavation on the site of the Mansion House, Newcastle, 1990, *Archaeologia Aeliana*, 5, 23, 191-97
- Davison, 1986, *Brickworks of the North East*, unpublished text held by TWAS
- Dendy, F.W., 1892, The ancient farms of Northumberland, *Archaeologia Aeliana*, 2, 16, 121-156
- Dickinson, W., 1975, Recurrence surfaces in Rusland Moss, Cumbria (formerly North Lancashire), *Journal of Ecology*, 63, 913-935
- Dixon, P.J., 1979, Towerhouses, pelehouses and Border society, *Archaeological Journal*, 136, 240-252
- Dodds, M.H., 1930, *A history of Northumberland*, XIII, Andrew Reid and Company Ltd, London
- Donkin, R.A., 1976, Changes in the early middle ages in Darby, H.C., (ed.), 1976, *A new historical geography of England before 1600*, Cambridge University Press, Cambridge, 75-135
- Dunsford, H.M. and Harris, S.J., 2003, Colonization of the wasteland in County Durham, *Economic History Review*, 56, 34-56
- Ellison, M., Finch, M. and Harbottle, B., 1979, The excavations of a 17th century pit at the Black Gate, Newcastle upon Tyne, 1975, *Post-Medieval Archaeology*, 13, 153-81
- Emery, F.V., 1976, England circa 1600 in Darby, H.C. (ed.), 1976, *A new historical geography of England before 1600*, Cambridge University Press, Cambridge, 248-301
- English Heritage, 1995, *Register of Historic Battlefields: Newburn Ford 1640*
- English Heritage, 1997, *Research Agenda*, draft
- Evans, D.H. and Jarrett, M.G., 1987, The deserted village of West Whelpington: Northumberland: third report, part 1, *Archaeologia Aeliana*, 5, 15, 199-308
- Everitt, A.M., 1985, *Landscape and community in England*, The Hambledon Press, London

- Faulkner, T. and Lowery, P., 1996, *Lost Houses of Newcastle and Northumberland*, Jill Raines, York
- Flynn, M.W., 1984, *The History of the British Coal Industry*, 2, 1700-1830, Clarendon Press, Oxford
- Fordyce, W., 1860, *A history of coal, coke and coal fields and the manufacture of iron in the north of England*, Frank Graham, Newcastle
- Fowler, P. (ed.), 1972, *Archaeology and the landscape – essays for L.V. Grinsell*, John Baker, London
- Fowler, P.J., 1975, *Recent work in rural archaeology*, Moonraker Press, Bradford-on-Avon
- Fowler, P. and Blackwell, I., 2000, *An English countryside explored – the land of Lettice Sweetapple*, Tempus Publishing, Stroud
- Fox, H.S.A. and Butlin, R.A. (eds.), 1979, *Change in the countryside: essays on rural England 1500-1900*, Institute of British Geographers, Special publication No. 10, London
- Frain, T., Tyne and Wear Museums, 2002, *Throckley Water Treatment Works, Hexham Road, Throckley, Tyne and Wear – Archaeological Assessment*, unpublished report held by HER
- Frain, T., Tyne and Wear Museums, 2003, *An archaeological excavation and watching brief at Throckley*, unpublished report held by HER
- Fraser, C.M., 1968, *The Northumberland Lay Subsidy Roll of 1296*, The Society of Antiquaries of Newcastle upon Tyne, Newcastle upon Tyne
- Fraser, C. and Emsley, K., 1978, *Northumbria*, Batsford, London
- Galloway, R.L., 1880, An account of some of the earliest records connected with the working of coal on the banks of the river Tyne, *Archaeologia Aeliana*, 2, VIII, 167-211
- Galloway, R.L., 1969, *A history of coal mining in Great Britain*, David and Charles, Newton Abbot (reprint of original of 1882)
- Gateshead Council, 1992, *Winlaton Ironworks restoration scheme*, unpublished report held by HER
- Gem, R., 1988, The English parish church in the 11th and early 12th centuries: a great rebuilding? In Blair, J. (ed.), 1988, *Minster and parish churches – the local church in transition 950-1200*, Oxford University Committee for Archaeology Monograph No. 17, 21-30
- Geoquest Associates, 2002, *Throckley Middle School – geophysical survey*, unpublished report held by HER
- Gibson, J., 1923, *Newburn and its associations*, Hexham Courant, Saturday October 27th 1923
- Gibson, W.S., 1846, *The history of the monastery founded at Tynemouth...*, William Pickering, London

- Gilhespy, T., n.d., *St. Michael and All Angels, Newburn*, pamphlet held by NRO
- Glasscock, R.E. (ed.), 1975, *The Lay Subsidy of 1334, Records of Social and Economic History*, new series, II, Oxford University Press, London
- Glasscock, R.E., 1976, *England circa 1334* in Darby, H.C. (ed.), 1976, *A new historical geography of England before 1600*, Cambridge University Press, Cambridge, 136-185
- Glover, G., 2005, *Rainton Bridge South Waggonway, Industrial Archaeology Review*, xxvii, 2, 235-244
- Glynne, S., 1909, *Notes on churches in Northumberland and Durham: Newburn, Proceedings of the Society of Antiquaries of Newcastle upon Tyne*, 3, 3, 227
- Gonner, E.C.K., 1912, *Common land and enclosure*, London
- Graves, C.P., 2002, *The development of towns in the north* in Brooks, C., Daniels, R. and Harding, A., 2002, *Past Present and Future – the archaeology of Northern England*, Architectural and Archaeological Society of Durham and Northumberland Research Report 5, 175-185
- Gray, H.L., 1959, *English Field Systems*, Merlin Press, London
- Gray, W., 1649, *Chorographia*, Stephen Buckley, Newcastle upon Tyne
- Grundy, J., McCombie, G., Ryder, P., Welfare, H., and Pevsner, N., 1992 *The Buildings of England – Northumberland* (second edition revised), Penguin, London
- Guy, A., 2003, *Steam and speed – railways of Tyne and Wear from the earliest days*, Tyne Bridge Publishing, Newcastle upon Tyne
- Guy, A. and Rees, J. (eds.), 1998, *Early railways*, Newcomen Press, London
- Harbottle, B., 1995, *Prestwick Carr: its draining and enclosure, Archaeologia Aeliana*, 5, 23, 1-15
- Harbottle, B. and Fraser, R., 1987, *Black Friars, Newcastle upon Tyne, after the Dissolution of the Monasteries, Archaeologia Aeliana*, 5, 15, 23-150
- Harding, A., 1993, *England in the thirteenth century*, Cambridge University Press, Cambridge
- Harris, S.J., 2005, *Wastes, the margins and the abandonment of land: the Bishop of Durham's estate, 1350-1480* in Liddy, C.D. and Britnell R.H. (eds.), *North-Eastern England in the Later Middle Ages*, Boydell Press, Woodbridge, 197-219
- Hatcher, J., 1993, *The history of the British coal trade, Vol. 1, Before 1700: towards the age of coal*, Oxford, Clarendon Press
- Hawkes, J., 1996, *The golden age of Northumbria*, Sandhill Press, Morpeth
- Hearnshaw, F.J.C., 1924, *Newcastle upon Tyne*, Sheldon Press, London
- Hedley, W.P., 1931, *The Walbottle (Throckley) hoard of Roman coins, Archaeologia Aeliana*, 4, VIII, 2-48

- Heppell, E. and Clack, P., 1991, The enclosures of the townfields of Sherburn and Shadforth, *Durham Archaeological Journal*, 7, 135-142
- Heslop, D.H., Truman, L. and Vaughan, J.E., 1995, Excavation of the town wall in the Milk Market, Newcastle upon Tyne, *Archaeologia Aeliana*, 5, xxiii, 215-234
- Hill, C., 1967, *Reformation to industrial revolution – a social and economic history of Britain 1530-1780*, Weidenfeld and Nicholson, London
- Hill, D., 1981, *An atlas of Anglo-Saxon England*, Basil Blackwell, Oxford
- Hodgson, J., 1840, *History of Northumberland*, Part II, Vol. III, Thomas and James Pigg, Newcastle upon Tyne
- Hodgson, J., 1855, Musters for Northumberland in 1538, *Archaeologia Aeliana*, 1, IV, 157-206
- Hodgson, J.C., 1895, A survey of the churches in the archdeaconry of Northumberland, *Archaeologia Aeliana*, 2, 17, 244-280
- Hodgson, J.C., 1916, Notices of ruined towers, chapels e.t.c. in Northumberland circa 1715, *Archaeologia Aeliana*, 3, xiii, 1-16
- Hodgson, R.I., 1979, The progress of enclosure in County Durham 1550-1870 in Fox, H.S.A. and Butlin, R.A. (eds.), 1979, *Change in the countryside: essays on rural England 1500-1900*, Institute of British Geographers, Special publication No. 10, London, 83-102
- Holmes, G., 1962, *The later middle ages 1272-1485*, W.W. Norton and Co, London
- Homans, G.C., 1960, *English villagers of the thirteenth century*, Russell and Russell, New York
- Honeyman, H.L., 1949, *Northumberland*, Robert Hale, London
- Hoole, K., 1986, *A Regional history of the railways of Great Britain*, Vol. IV, The North East, David St John Thomas, Newton Abbot
- Hoskins, W.G., 1955, *The making of the English landscape*, Penguin, Harmondsworth
- Hoyle, R.W., 2001, *The pilgrimage of grace and the politics of the 1530s*, Oxford University Press, Oxford
- <http://museums.ncl.ac.uk/sitelines> (Tyne and Wear HER on-line)
- Hughes, S., 2004, Social archaeology: a possible methodology of the study of workers settlements based on the study of eighteenth and nineteenth century copper industry of Swansea in Barker, D. and Cranstone, D. (eds.), 2004, *The archaeology of industrialization*, Maney, Leeds, 137-153
- Hunter Blair, P., 1976, *Northumbria in the days of Bede*, Victor Gollancz, London
- Huntley, J.P., 1991, *The carbonised seeds, charcoal and pollen from Brough St. Giles, North Yorkshire: BSG88, BSG89 and BSG90*, Ancient Monuments Laboratory Report 90/91, English Heritage, London

- Huntley, J.P. and Stallibrass, S., 1995, *Plant and vertebrate remains from archaeological sites in northern England: data reviews and future directions*, Architectural and Archaeological Society of Durham and Northumberland, Research Report No. 4, Durham
- Hutchinson, W., 1776, *A view of Northumberland*, II, T. Saint, Newcastle
- info@syonpark.co.uk
- James, M.E., 1955, Estate accounts of the Earls of Northumberland 1562-1637, *Surtees Society*, vol. CLXIII
- Jolliffe, J.E.A., 1926, Northumbrian Institutions, *English Historical Review*, 161, 1-42
- Jones, W., 1996, *Dictionary of industrial archaeology*, Sutton Publishing Ltd., Stroud
- Kapelle, W.E., 1979, *The Norman conquest of the north – the region and its transformation 1000-1135*, Croom Helm, London
- Kelly, 1858, *Directory of Newcastle upon Tyne*
- Kelly, 1873, *Directory of Newcastle upon Tyne*
- Kelly, 1886, *Directory of Newcastle upon Tyne*
- Kelly, 1910, *Directory of Newcastle upon Tyne*
- Kerridge, E., 1967, *The Agricultural Revolution*, George Allen & Unwin, London
- keystothepast.info/durhamcc (Northumberland and Durham SMRs on-line)
- Knowles, W.H., 1915, Newburn Hall and Manor House, Northumberland, *Archaeologia Aeliana*, 3, XII, 186-200
- Langton, J., 1979, Landowners and the development of coal mining in south-west Lancashire 1590-1799 in Fox, H.S.A. and Butlin, R.A. (eds.), 1979, *Change in the countryside: essays on rural England 1500-1900*, Institute of British Geographers, Special publication No. 10, London, 123-144
- Lennard, R., 1959, *Rural England 1035-1135 – a study of social and agrarian change*, Clarendon Press, Oxford
- Lewis, M., 1970, *Early wooden railways*, Routledge and Kegan Paul, London
- Lewis, M., 2003, *Early Railways 2*, Newcomen Society, London
- Liddy, C.D. and Britnell, R.H., 2005, *North-East England in the later Middle Ages*, Boydell Press, Rochester, NY
- Liffen, J., 2006, The iconography of the Wylam Waggonway in Bailey, M.R. (ed), 2006, *Early Railways 3 – papers from the third international early railways conference*, Six Martlets Publishing, Sudbury
- Linsley, S., n.d., Farmsteads 4: Cutty Coats and Leaplish, unpublished text held by HER

- Linsley, S., 1985, The fixed barn threshing machine and its influence on farmstead layout in Northumberland in Clack, P. and Ivy, J. (eds), 1985, *Making sense of building*, Council for British Archaeology Group 3 Publication, Durham, 117-135
- Linsley, S.M., 1992, Eighteenth to Twentieth Century Agrarian Transformation and Industrial Revolution in Grundy, J., McCombie, G., Ryder, P., Welfare, H., and Pevsner, N., 1992 *The Buildings of England – Northumberland* (second edition revised), Penguin, London, 84-104
- Linsley, S. and Hetherington, R., 1978, A seventeenth century blast furnace at Allensford, Northumberland, *Historical Metallurgy*, 12/1, 1-11
- Lomas, R., 1992, *North-East England in the middle ages*, John Donald, Edinburgh
- Lomas, R., 1999, *A power in the land: the Percys*, Tuckwell Press, East Lothian
- Longstaffe, W.H.D., 1860, The New Castle upon Tyne, *Archaeologia Aeliana*, 2, IV, 45-139
- Loveluck, C., 2002, The Romano-British to Anglo-Saxon transition – social transformations from the late Roman to early medieval period in northern England AD 400-700 in Brooks, C., Daniels, R. and Harding, A. (eds.), 2002, *Past, present and future – the archaeology of northern England*, Architectural and Archaeological Society of Durham and Northumberland, Research Report 5, 127-148
- Mabbitt, J.C., 2001, *Throckley Middle School, Hexham Road, Throckley, Tyne and Wear – Archaeological Assessment*, unpublished report held by HER
- Manders, 1973
- Mackenzie, E., 1811, *A historical and descriptive view of the county of Northumberland and of the town and county of Newcastle upon Tyne*, 2, Mackenzie and Dent, Newcastle Upon Tyne
- Mackenzie, E., 1825, *An historical, topographical and descriptive view of the County of Northumberland and of those parts of the County of Durham situated north of the River Tyne*, 2, Mackenzie and Dent, Newcastle Upon Tyne
- Maclaughlan, H., 1858, *Memoir written during a survey of the Roman Wall through the counties of Northumberland and Cumberland in the years 1852-1854*, London, printed for private circulation
- Manders, F.W.D., 1973, *A history of Gateshead*, Gateshead Corporation, Gateshead
- Manning, R.B., 1988, *Village revolts – social protest and popular disturbances in England 1509-1640*, Clarendon Press, Oxford
- Maughan, C., 1979, *The Last Dandy Cart, Tyne and Tweed*, Spring 1979
- Mee, A., 1952, *King's England: Northumberland*, Hodder and Stoughton, London
- Middlebrook, S., 1950, *Newcastle upon Tyne – its growth and achievement*, Kensley House, Newcastle upon Tyne
- Miket, R., 1984, *The Prehistory of Tyne and Wear*, Archaeological Group/Cheviot Field Centre and Museum, Wooler

- Miket, R., and Burgess, C.B. (eds), 1984, *Between and Beyond the Walls – essays on the prehistory and history of north Britain in honour of George Jobey*, J. Donald, Edinburgh
- Mills, D.A.C. and Holliday, D.W., 1998, Geology of the district around Newcastle upon Tyne, Gateshead and Consett, *Memoir of the British Geological Society*, Sheet 20 (England and Wales)
- Morris, R., 1989, *Churches in the landscape*, John Dent, London
- Morriss, R., 1999, *The archaeology of railways*, Tempus Publishing, Stroud
- Muir, R., 2001, *Landscape detective – discovering a countryside*, Windgatherer Press, Macclesfield
- Musgrove, F., 1990, *The north of England – a history from Roman times to the present*, Basil Blackwell, Oxford
- Nef, J.U., 1966, *The Rise of the British Coal Industry*, London, Frank Cass & Co. Ltd
- New, J., 2004, *Waggonway/wagonway spread – the first twenty years*, Waggonway Research Circle, www.waggonways.fsnet.co.uk
- Newburn Urban District Council, 1958, *Newburn, Northumberland – the official guide*, E.J. Burrow and Co, Cheltenham
- Newcastle City Council, 2006, *Lemington-Newburn – a story through our community*, Information Pack
- Newcastle upon Tyne Records Committee, 1922, *Northumberland pleas from the curia Regis and assize rolls 1198-1272*, Northumberland Press, Newcastle upon Tyne
- Newman, R., 2004, Industrial rural settlements: genesis, character and context 1550-1900 in Barker, D. and Cranstone, D. (eds.), 2004, *The archaeology of industrialization*, Maney, Leeds, 25-34
- Newman, R., Cranstone, D. and Howard-Davis, C., 2001, *The historical archaeology of Britain c.1540-1900*, Sutton Publishing, Stroud
- Newton, R., 1972, *The Northumberland landscape*, Hodder and Stoughton, London
- Nolan, J., Vaughan, J and ARCUS, 2002, Excavations at the site of the Regional Music Centre, Oakwellgate, Gateshead, unpublished report held by HER
- Northern Counties Archaeological Services, 1997, *Lemington Glass Works – archaeological recording and evaluation*, unpublished report held by HER
- Northern Counties Archaeological Services, 2001, *Throckley Middle School, Hexham Road, Throckley: Desk-based Assessment*, unpublished report held by HER
- Nowell, Dr., 1910, Newburn, *Proceedings of the Society of Antiquaries of Newcastle upon Tyne*, 3, 4, 53-61
- Page, W. (ed.), 1907, Industries, *Victoria County History: Durham*, 2
- Pallister, A. and Wrathmell, S., 1990, The deserted village of West Hartburn, third report: excavation of site D and discussion in Vyner, B. (ed.), *Medieval rural settlement*

in North East England, Architectural and Archaeological Society of Durham and Northumberland, Durham, 59-75

Parker, J., Tyne and Wear Museums, 2006, *Kelvin Works, South Shore Road, Gateshead – an archaeological excavation*, unpublished report held by HER

Parson, W. and White, W., 1828, *History directory and gazetteer of the counties of Durham and Northumberland*

Passmore, D. and Macklin, M., 1997, *Geoarchaeology of the Tyne basin: Holocene river valley environments and the archaeological record in Tolan-Smith, 1997, Landscape archaeology in Tynedale*, Tyne-Solway Ancient and Historic Landscapes Research Programme Monograph 1, Department of Archaeology, University of Newcastle upon Tyne, Newcastle upon Tyne, 11-27

Patten, J. (ed.), 1979, *Pre-industrial England – geographical essays*, Dawson, Folkestone

Pawson, H.C., 1961, *A survey of the agriculture of Northumberland*, Royal Agricultural Society of England County Agricultural Survey No. 3, London

Peacock, T., 1994, *Bygone Blucher and North Walbottle*, Newcastle City Libraries and Arts, Newcastle upon Tyne

Perrin, 1899, Discoveries near Newburn, *Proceedings of the Society of Antiquaries of Newcastle*, 2, VIII (for 1897-98), 34-35

Peters, C.G., Tyne and Wear Museums, 2004, *Woodside Haulage Yard, Newburn, archaeological assessment*, unpublished report held by HER

Petts, D. with Gerrard, C.M., 2006, *Shared Visions: The North-East Regional Research Framework for the Historic Environment*, English Heritage, Durham University, Durham County Council

Philips, A.D.M., and Turton, B.J., 1975, *Environment, man and economic change*, Longman, London

Philpot, G., 1975, Enclosure and population growth in eighteenth century England, *Explorations Economic History* 12, 19-46

Pilbeam, A., 2006. *The landscape of Gloucestershire*, Tempus Publishing, Stroud

Poole, G. and Raistrick, A., 1949, Extractive Industries in British Association for the Advancement of Science, 1949, *Scientific Survey of North-Eastern England*, 87-98

Postan, M.M. (ed.), 1966, *The Cambridge Economic History of Europe, Vol. 1, The Agrarian Life of the Middle Ages*, second edition, Cambridge University Press, Cambridge

Pre-Construct Archaeology Ltd, 2002, *Archaeological evaluation at Throckley Middle School, Hexham Road, Throckley, Tyne and Wear, Phase 2*, unpublished report held by HER

Pre-Construct Archaeology Ltd, 2003a, *Archaeological watching brief Phase 2 at Throckley Middle School, Hexham Road, Throckley, Tyne and Wear*, unpublished report held by HER

- Pre-Construct Archaeology Ltd, 2003b, *Historic buildings survey: Throckley middle school, Tyne and Wear*, unpublished report held by HER
- Pre-Construct Archaeology Ltd, 2007, *An archaeological excavation at Sands Road, Swalwell, Gateshead, Tyne and Wear – post excavation assessment report*, unpublished report held by HER
- Rackham, O., 1986, *The history of the countryside – the classic history of Britain's landscape, flora and fauna*, Phoenix Press, London
- Rahtz, P.A., 1981, Medieval milling in Crossley, D.W. (ed.), 1981, *Medieval Industry*, Council for British Archaeology, London, 1-5
- Rahtz, P. and Meeson, R., 1992, *An Anglo-Saxon watermill at Tamworth, excavations in the Bolebridge Street area of Tamworth, Staffordshire in 1971 and 1978*, Council for British Archaeology Research Report 83
- Raistrick, A., 1972, *Industrial archaeology*, Granada, St. Albans
- Ramm, H.G., McDowall, R.W., and Mercer, E., 1970, *Shielings and bastles*, HMSO, London
- Reed, M., 1990, *The landscape of Britain – from the beginnings to 1914*, Routledge, London
- Rennison, R.W., 1979, *Water to Tyneside – a history of the Newcastle and Gateshead Water Company*, Newcastle and Gateshead Water Company, Gateshead
- Reynolds, J., 1970, *Windmills and watermills*, Hugh Evelyn, London
- Richardson, J., 1974, *The local historian's encyclopedia*, Historical Publications Ltd., New Barnet
- Richardson, M.A., 1841, *The local historian's table book of remarkable occurrences etc.*, Vol.1, M.A. Richardson, Newcastle upon Tyne
- Richardson, M.A., 1842, *The local historian's table book of remarkable occurrences etc.*, Vol.2, M.A. Richardson, Newcastle upon Tyne
- Richardson, M.A., 1843, *The local historian's table book of remarkable occurrences etc.*, Vol.3, M.A. Richardson, Newcastle upon Tyne
- Richardson, M.A., 1844, *The local historian's table book of remarkable occurrences etc.*, Vol.4, M.A. Richardson, Newcastle upon Tyne
- Ridley, N., 1968, *Northumbrian Heritage*, Robert Hale, London
- Rippeth, N.G., 1993, *Newburn in old picture postcards*, Newcastle upon Tyne City Libraries and Arts, Newcastle upon Tyne
- Rippon, S., 2000, *Estuarine archaeology: the Severn and beyond*, Severn Estuary Research Committee, Exeter
- Rippon, S., 2003, Medieval settlements: some suggestions for the future, *Medieval Settlement Research Group Annual Report 17*, 10-18

- Rippon, S., 2004, *Historic landscape analysis: deciphering the countryside*, Council for British archaeology, York
- Roberts, B.K., 1977a, *Rural settlement in Britain*, Dawson Archon Books, Folkestone
- Roberts, B.K., 1977b, *The Green Villages of County Durham*, Durham County Council, Durham
- Roberts, B.K., 1982, *Village Plans*, Shire Publications, Aylesbury
- Roberts, B.K., 1987, *The making of the English village – a study in historical geography*, Longman Scientific and Technical, Harlow
- Roberts, B.K., 1989, Nucleation and dispersion – distribution maps as a research tool in Aston, M., Austin, D., and Dyer, C. (eds.), 1989, *The rural settlements of medieval England – studies dedicated to Maurice Beresford and John Hurst*, Basil Blackwell, Oxford, 59-75
- Roberts, B.K. and Wrathmell, S., 2000, *An atlas of rural settlement in England*, English Heritage, London
- Roberts, B.K., Dunsford, H. and Harris, S.J., 2005, Farming medieval landscapes: region and place in County Durham in Liddy, C.D. and Britnell R.H. (eds.), *North-Eastern England in the Later Middle Ages*, Boydell Press, Woodbridge, 221-237
- Rodwell, W., 1981, *The archaeology of the English church – the study of historic churches and churchyards*, Batsford, London
- Rodwell, W., 1989, *Church archaeology*, Batsford, London
- Rollason, D.W., 2003, *Northumbria 500-1100: creation and destruction of a kingdom*, Cambridge University Press, Cambridge
- Rose, A., 2003, *Kings in the north – the house of Percy in British History*, Phoenix, London
- Rounthwaite, J.M, 1949, Civil Engineering in North East England in British Association for the Advancement of Science, 1949, *Scientific Survey of North-Eastern England*, 151-160
- Rowland, T.H., 1973, *Discovering Northumberland – a handbook of local history*, Frank Graham, Newcastle upon Tyne
- Rowley, T., 1982, Medieval field systems in Cantor, L. (ed.), 1982, *The English medieval landscape*, Croom Helm, London, 25-55
- Rowley, T., 1983, *The Norman Heritage 1055-1200*, Routledge and Kegan Paul, London
- Rowley, T. and Wood, J., 2000, *Deserted Villages* (third edition), Shire Archaeology, Princes Risborough
- Royal Commission on the Historical Monuments of England, 1993, *Lemington Glass Cone*, unpublished report held by HER

- Rushworth, A., Roberts, I. and Carlton, R., 2005, *Droving in Northumberland National Park – an historical and archaeological background* (unpublished report for Northumberland National Park Authority)
- Ryder, P., 1992, Medieval architecture and sculpture in Grundy, J., McCombie, G., Ryder, P., Welfare, H., and Pevsner, N., 1992 *The Buildings of England – Northumberland* (second edition revised), Penguin, London, 48-57
- Ryder, P.F., 1993, Bastles and bastle-like buildings in Allendale, Northumberland, *Archaeological Journal*, 149, 351-379
- Ryder, P.F., 2004, Towers and bastles in Northumberland National Park in Frodsham, P. (ed.), 2004, *Archaeology in Northumberland National Park*, Council for British Archaeology Research Report 136, York, 262-271
- Schofield, P.R., 2003, *Peasant and community in medieval England 1200-1500*, Palgrave Macmillan, Basingstoke
- Scott Wilson, 2007, *Owners extension, Newburn – geotechnical test pit observe and record*, unpublished report held by HER
- Seebohm, F., 1913, *The English village community*, Longmans, Green and Co., London
- Seeley, J.Y.E., 1973, *Coal mining villages of Northumberland and Durham: a study of sanitary conditions and social facilities 1870-1880*, M.A. thesis, University of Newcastle
- Sill, M., 1974, *Hetton-le-Hole the genesis of a coalmining landscape 1770-1860*, MA thesis, University of Durham
- Skipp, V., 1970, *Medieval Yardley – the origin and growth of a West Midland community*, Phillimore, London and Chichester
- Skipp, V., 1979, *The centre of England*, Eyre Methuen, London
- Slater, 1855, *Royal National Commercial Directory of the northern counties: Durham, Northumberland and Yorkshire*
- Slater, G., 1907, *The English peasantry and the enclosure of the common fields*, Archibald Constable and Co., London
- Smailes, A.E., 1960, *North England*, Thomas Nelson & Sons, London
- Smythe, J.A., 1908-11, The glacial phenomena of the county between the Tyne and Wansbeck, *Transactions of the Natural History Society of Northumberland and Newcastle upon Tyne*, new series, III
- Snape, M.E., 2003, A horizontal-wheeled watermill of the Anglo-Saxon period at Corbridge, Northumberland, and its river environment, *Archaeologia Aeliana*, 5, XXXII, 37-72
- Sockett, E.W., 1971, Stone axe from Dewley Law, *Archaeologia Aeliana*, 4, XLIX, 345-6
- Speak, S., Tyne and Wear Museums, 1997, *Stella Power Station, Newburn, Tyne and Wear, archaeological assessment*, unpublished report held by HER

Spufford, M., 1984, *The great reclothng of rural England: petty chapmen and their wares in the 17th century*, Hambledon, London

Stamp, L.D. (ed.), 1946, *The Land of Britain – The report of the land utilisation survey of Britain – Part 52, Northumberland*, Geographical Publications Ltd, London

Steel, C.W., n.d., *A village within a city*, article held by Newburn Library

Stobbs, G., Tyne and Wear Museums, 1992, *Boldon Mill*, unpublished report held by HER

Stobbs, G., Tyne and Wear Museums, 2005, *Field Terrace, Throckley, Newcastle-upon-Tyne, Tyne and Wear – archaeological assessment*, unpublished report held by HER

Surtees Society, 1837, *The Priory of Finchale: the charters of endowment, inventories and account rolls of the Priory of Finchale in the County of Durham*, Andrews & Co., Durham

Surtees Society, 1864, vol. XLVI, *The Priory of Hexham, its chronicles, endowments and annals*, Andrews & Co., Durham

Surtees Society, 1876, vol. LXVI, *The Newminster Cartulary*, Andrews & Co., Durham

Surtees Society, 1909, vol. CXVII, *The Percy Chartulary*, Andrews & Co., Durham

Surtees Society, 1921, vol. CXXXIV, *Percy Bailiff's Rolls of the fifteenth century*, Andrews & Co., Durham

Sykes, J., 1866, *Local records, or historical register of remarkable events*, T. Fordyce, Newcastle upon Tyne, 2 volumes

Tait, J., 1936, *The medieval English borough – studies on its origins and constitutional history*, Manchester University Press, Manchester

Tate, W.E., 1946, A handlist of English enclosure acts and awards, part 26, Northumberland, *Proceedings of the Society of Antiquaries of Newcastle upon Tyne*, 4, 10, 39-52

Taylor, C., 1975, *Fields in the English Landscape*, J.M. Dent and Sons, London

Taylor, C., 1980, The making of the English landscape – 25 years on, *The Local Historian*, 14, 4, 195-201

Taylor, H.M. and Taylor, J., 1965-78, *Anglo-Saxon architecture*, Cambridge University Press, Cambridge

The Archaeological Practice, 1989, *Ouseburn Park flint mill site investigation*, unpublished report held by HER

The Archaeological Practice, 1992, *Dewley Hill, archaeological assessment*, unpublished report held by HER

The Archaeological Practice, 1994, *Dewley Hill, archaeological evaluation*, unpublished report held by HER

- The Archaeological Practice, 1996a, *Callerton Lane End evaluation*, unpublished report held by HER
- The Archaeological Practice, 1996b, *Crescent Farm opencast site, City of Newcastle upon Tyne and Northumberland*, unpublished report held by HER
- The Archaeological Practice, 1999, *Newburn Haugh, Newburn*, unpublished report held by HER
- The Archaeological Practice, 2000, *Walbottle Road, Newburn*, unpublished report held by HER
- The Archaeological Practice, 2004, *Historic village atlas*, unpublished report for Northumberland National Park Authority
- Thorpe, H., 1949, The green villages of County Durham, *Transactions of the Institute of British Geographers*, 15, 155-180
- Tolan-Smith, C., 1992-1994, *Dewley Hill Evaluation*, unpublished reports held by HER
- Tolan-Smith, C., 1997, *Landscape archaeology in Tynedale*, Tyne-Solway Ancient and Historic Landscapes Research Programme Monograph 1, Department of Archaeology, University of Newcastle upon Tyne, Newcastle upon Tyne
- Tomaney, E., 1978, *Gazetteer of medieval villages in Tyne and Wear*, unpublished text held by HER
- Tomlinson, W.W., 1915, *The North Eastern Railway: its rise and development*, A. Reid, Newcastle upon Tyne
- Tomlinson, W.W., 1888, *Comprehensive guide to the county of Northumberland*, Walter Scott, London
- Tomlinson, W.W., 1894, *Denton Hall and its associations*, Walter Scott, London
- Tuck, J.T., 1993, *The collieries of Northumberland*, Trade Union Printing Services, Newcastle upon Tyne
- Turner, M., 1984, *Enclosures in Britain*, Macmillan Press, London
- Tyne and Wear County Council Museums, 1982, *Tyne Guide*, Tyne and Wear County Council Museums and Tyne and Wear Industrial Monuments Trust, Newcastle upon Tyne
- Tyne and Wear Museums, 1992, *Don Valley Survey – an archaeological and historical survey of the River Don between Hedworth and Newton Garths*, unpublished report held by HER
- Tyne and Wear Museums, 1996, *AES Walbottle Power Station, Newburn Industrial Estate, Newcastle upon Tyne – archaeological assessment*, unpublished report held by HER
- Tyne and Wear Museums, 1999, *Walbottle Colliery Farm Steading – archaeological watching brief*, unpublished report held by HER

- Vyner, B.E. (ed), 1990, *Medieval Rural Settlement in North-East England*, Architectural and Archaeological Society of Durham and Northumberland, Research Report No.2, Durham
- Wade-Martins, P., 1989, The archaeology of medieval rural settlements in East Anglia in Aston, M., Austin, D., and Dyer, C. (eds.), 1989, *The rural settlements of medieval England – studies dedicated to Maurice Beresford and John Hurst*, Basil Blackwell, Oxford, 149-165
- Wade-Martins, S., 1995, *Farms and fields*, Batsford, London
- Walker, R.F., 1976, *The origins of Newcastle upon Tyne*, Thorne's Students' Bookshop, Newcastle upon Tyne
- Walker, T.E.C. and Warner, S., 1953, *The King's England: Northumberland, England's farthest north*, Hodder and Stroughton, London
- Wallis, J., 1769, *The natural history and antiquities of Northumberland*, W. & W. Stratham, London
- Walton, A.D., 1990, *Bygone Newburn*, Newcastle upon Tyne City Libraries and Arts, Newcastle upon Tyne
- Walton, A.D., 1991, *Bygone Bell's Close and Lemington*, Newcastle upon Tyne City Libraries and Arts, Newcastle upon Tyne
- Walton, G., 1994, *Bygone Throckley*, Newcastle upon Tyne City Libraries and Arts, Newcastle upon Tyne
- Walton, G., and A. Watson, 1992, *Bygone Walbottle*, Newcastle upon Tyne City Libraries and Arts, Newcastle upon Tyne
- Warn, C.R., 1976, *Waggonways and Early Railways of Northumberland, 1605-1840*, Frank Graham, Newcastle upon Tyne
- Watson, G., 1976, *Northumberland villages*, Robert Hale, London
- Watts, S.J., 1975, *From border to middle shire: Northumberland 1586-1625*, Leicester University Press, Leicester
- Welford, R., 1887, *History of Newcastle and Gateshead*, Vols. 1-3, Walter Scott, London
- Weyman, J., 1984, The Mesolithic in north east England, in R. Miket and C.B. Burgess (eds), 1984, *Between and Beyond the Walls – essays on the prehistory and history of north Britain in honour of George Jobey*, J. Donald, Edinburgh, 38-51
- Whellan, T. and Co., 1855, *Directory and topography of the county of Durham with Newcastle upon Tyne*
- Whellan, T. and Co., 1858, *Directory and topography of the county of Durham with Newcastle upon Tyne*
- Whellan, T. and Co., 1865, *Directory and topography of the county of Durham with Newcastle upon Tyne*

- Whitaker, H., 1949, *A Descriptive List of the maps of Northumberland 1576-1900*, Society of Antiquaries of Newcastle upon Tyne and Public Libraries Committee of Newcastle upon Tyne
- Wickham, A.K., 1932, *The villages of England*, B.T. Batsford, London
- Wild, T., 2004, *Village England – a social history of the countryside*, I.B. Tauris, London
- Williams, A., 2006, *Brickworks in Tyne and Wear*, unpublished report held by the HER
- Williamson, T.M., 1986, Parish boundaries and early fields – continuity and discontinuity, *Journal of Historical Geography*, 12, 241-8
- Williamson, T., 1987, Early co-axial field systems on the East Anglian boulder clays in *Proceedings of the Prehistoric Society*, 53, 419-431
- Williamson, T., 1998, The Schole-Dickleburgh field system revisited, *Landscape History*, 20, 19-28
- Williamson, T., 2002, *The transformation of rural England – farming and the landscape 1700-1870*, University of Exeter Press, Exeter
- Williamson, T., 2003, *Shaping Medieval Landscapes – settlement, society, environment*, Windgatherer Press, Macclesfield
- Williamson, T. and Bellamy, L., 1987, *Property and landscape – a social history of the land ownership and the English countryside*, George Philip, London
- Wrathmell, S., 1975, *Deserted and shrunken villages in southern Northumberland from the twelfth to the twentieth centuries*, unpublished PhD thesis, University College, Cardiff
- Wrathmell, S., 1980, Village depopulation in the 17th and 18th centuries: examples from Northumberland, *Post-Medieval Archaeology*, 14, 113-126
- Wrathmell, S., and Jarrett, M., 1977, Sixteenth and seventeenth century farmsteads: West Whelpington, Northumberland, *Agricultural History Review*, 25, 108-119
- Yelling, J.A., 1977, *Common Field and Enclosure in England 1450 – 1850*, Macmillan Press, London
- Yorke, B., 1999, *The Anglo-Saxons*, Sutton Publishing, Stroud
- Zins, H., 1972, *England and the Baltic in the Elizabethan era*, Manchester University Press, Manchester (trans. H.C. Stevens of 1967 Polish text)

