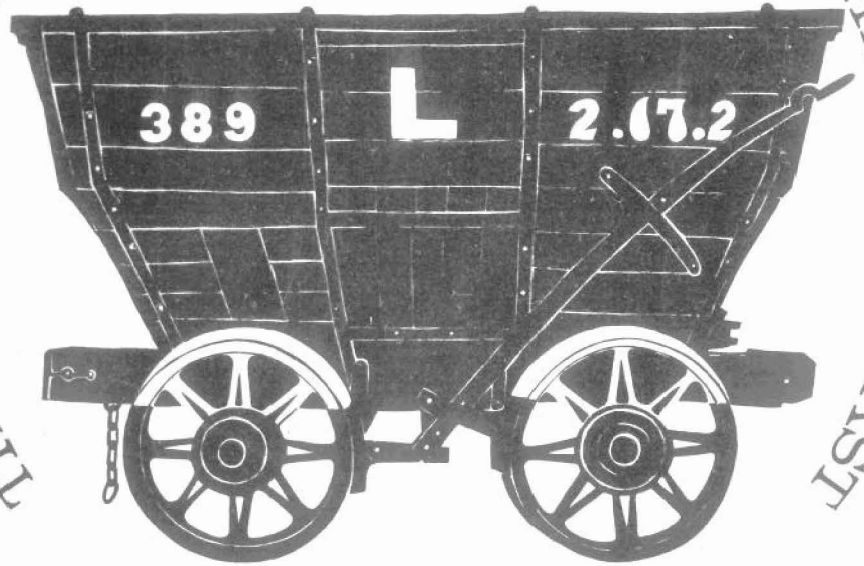
JULY 1967

THE INDUSTRIAL ARCHAEOLOGY GROUP FOR THE NORTH EAST



BULLETIN 3

22-7-67.

INDUSTRIAL ARCHAEOLOGY GROUP
FOR THE NORTH EAST

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REGIONAL PRIDE

Certainly in the news at the moment is the future of the proposed Regional Open Air Museum for the North of England. Is it really going to fail? We cannot believe this, for it would be a museum of the history of everyday people, for everyday people. And surely we, the everyday people of the region, are not going to stand by and see it fail.

If, as seems possible, at the moment, Newcastle turns its back temporarily on the scheme, cannot the other Local Authorities still have confidence in their idea? If the worst came to the worst, could not Durham County Council alone run the scheme in a minimal fashion for a year or two, just to show what CAN be done?

There can be no doubt, in the mind of anyone who has ever seen a Continental Open Air Museum, just how popular and successful these can be. For educational purposes, for tourists, for simple amusement and interest, these open-air sites are of tremendous value, and the sooner the North East gets one the better.

But the urgency is not so simple. The proposed site, Beamish Hall, is without doubt the best in the North. It was selected, for this purpose, by Planners from two counties, aided by advice from others. And its owner, the National Coal Board, wants to sell it this year.

Also urgent is the imminent destruction of many historic buildings and machines. For the rapid development of the North East is such that several examples are on the very point of destruction. Next year may be too late to save some of them.

Because the results of Frank Atkinson's collecting are not widely known, we publish overleaf a selection from his list, of the stored and temporarily reserved material. It is only a selection! Must all this be lost?

Regional Open Air Museum

A brief selection of some of the stored material.

1 Kept temporarily in situ

Beamish colliery winding engine by Joicey of Newcastle, 1855
The last example in the North East
The site is now otherwise cleared and awaiting development

Steel cementation furnace near Rowlands Gill, mid 18th century
The only known 18th century example
Steadily deteriorating

Waddle ventilation fan at Ryhope Colliery
The only remaining colliery example known
The colliery was closed in 1966 and is being dismantled

Chain shop at Winlaton, early 19th century
Believed to be the last in the North East
Required out of the way for housing development

Rowley Station
The last small typically North Eastern railway station
BR need it removed now

West Boldon lime and coal depot 1834
The last of its kind, of the Stanhope and Tyne Railway
In the way of development

Chaldron wagons at Seaham Harbour
See the note elsewhere in this Bulletin
At present retained through the generosity of the Coal Board and the Dock Company

Water-powered corn mill
In working condition
If not moved soon the machinery will be taken out by the owner

East Herrington pumping engines and horse-gin
A unique group in the North East
The building and its contents will be demolished shortly, if not removed

File-cutter's workshop and contents
Once a common hand-industry around Sunderland.
This workshop will have to be removed or demolished within two years. No other complete example survives.

Engineering lathe; about 1860
Used for building water-wheels at Durham and capable of turning 20 feet diameter
It will have to be taken out within the next two years

2 Dismantled and Stored at various sites

Warden Law haulage engine, 1836
The last in the North
About 50 tons of metal

'Tiny Tim': steam hammer, 1888
The last of its kind in the North East
About 70 tons of metal

Seaham Harbour coal drop
Possibly the last in the world
About 80 tons of metal and 200 tons of stonework

Aveling-Porter steam road-roller, 1894
A good early example, from Northumberland
Weighs 15 tons

Three North-Eastern tramcars
At least one of these would have gone abroad, had it not been brought back to its home area

Four North East Railway passenger coaches, 1898
Probably the only remaining examples. None are preserved nationally

J. 21 North East Railway locomotive, 1898
Certainly the only remaining specimen of this early locomotive, designed for, and once typical of the region

Two 'olivers', mid 19th century
Foot-operated hammers used by heavy industry

3 Stored at Brancepeth

a) Crafts and small industries
Complete tools, machines, benches etc. of:
Cooper
Chainsmith
Ropemaker
Smith
Wheelwright

b) Coal industry
Large assortment of trucks, tubs, stone kibbles etc.
Shotton winding engine
Colliery pug mill

c) Engineering industry
19th century mechanical planer
Foundry patterns
Various machines
Engineering hand-tools

d) Printing industry
Entire contents of printer's workshop
Hand presses, wooden type, type racks etc.

e) Electrical industry
Urban sub-station: c. 1890
Motors and other items of c. 1900
Switchgear
Domestic fittings

f) Agriculture
Long-carts, coup carts, rollies
Ploughs, harrows
Reaper-binder, mower
Contents of cow-house
Contents of stable
Harness
Dairying implements
Barn machines, hand tools
Steam-powered thresher: complete
Horse-powered thresher: complete

g) Miscellaneous vehicles
Coaches
Hearses
Fire-engines (steam and manual)
Street-sweeper
Sludge-cart

h) Late 19th century Shops etc.
Grocer
Chemist
Public house
Stationer
Photographer
Dentist's surgery

i) Domestic
Very wide range of most north-eastern types of furniture from many classes of 19th century homes; middle-class, farmers, miners: cupboards, 'dess-beds', clocks, chairs and tables, organs, washing machines, fireplaces and fire-surrounds etc.

j) Educational
Very full range of school contents: six-seater desks, blackboards, teacher's desks, bead frames etc.

k) Miscellaneous
Cast-iron Gents' public lavatory, c. 1880
19th century GPO post boxes

NORTHUMBERLAND

Additions to the check list of sites in Bulletin 2

New York	Iron: working	Tyrebender	78/NZ 326 703
Willington Dene	Transport: rail	Viaduct	78/NZ 316 667
Newcastle	" "	Ouseburn Viaduct	78/NZ 261 647
Seaton Sluice	Transport: water	Harbour	78/NZ 339 769
North Shields	Power: wind	Stone tower	78/NZ 338 692
Blanchland	Lead: smelting	Mill (Acton)	77/NY 976 535
Earsdon	Coal: mining	Memorial	78/NZ 321 725
Newcastle	Lead	Shot tower	78/NZ 242 632

Herrington Horse

The recently discovered horse-gin at East Herrington has had its moment of glory. It was filmed recently, once more powered by a horse, for television cameras.

A film was being made by Tyne-Tees Television probably to be put on the air on July 20th, in the series 'Close-up'. This particular film is based on industrial archaeology in the North East and when it was suggested that a horse-gin might actually rotate once more for the cameras, no time was lost in finding a docile horse.

So for a day the old 1909 electric pumps worked and a horse plodded in a weary circle.

The water-pumping station, at present leased from the National Coal Board by the Sunderland and South Shields Water Board, is still used a little, for a small submersible pump is now sited there. We hope that this dramatic group of early mechanism will not be lost. They could form a very exciting part of the Regional Open Air Museum, especially if brought to life like this, from time to time.

RECORDING FARMSTEADS
Vera Chapman

No longer is it possible to assume from external appearances the present day function of particular farm buildings of old, say pre-second world war vintage, however distinctive or intact they may seem.

This realisation was forced upon the writer during an exploratory attempt to record farmsteads in the Middle Tees Valley. The following notes are offered in order to draw attention to the urgent need for systematic recording and to guide others in the light of experience so gained. A simple recording scheme is proposed, and about eighty farmsteads have now been recorded, of which the writer has done thirty-six.

Most English farmsteads were built when horses powered the implements of cultivation in the field, pulled the cart or waggon and trap about the farm and on the road, and powered the machinery in the barn. Farm "hands" or "hinds" were numerous, often "living in", and each farmstead incorporated a wide range of farming and craft activities and a varied range of buildings.

Today complex mechanisation, the sheer quantity and standard of technical and scientific knowledge required, and the economics of scale have been leading individual farmers to greater specialisation on a few "lines", and to larger-scale operations and flexibility.

GENERAL CHANGES IN FARM BUILDINGS

In terms of a set of farm buildings, there are two trends:

1) a variety of functionally specialised buildings is no longer necessary or desirable.
2) particular buildings need to be bigger.

The familiar, narrow-span buildings, averaging 15 to 18 feet in width, with low entrances, are of the wrong size and shape for modern requirements, and are rapidly giving way to large sheds and covered yards with unobstructed floor-space and tower silos. The new units are suitable for the mechanical handling of crops, fodder and "muck", the tractor-fork replacing the wheel-barrow or cart, and for the storage of large machines. They are also capable of seasonal re-arrangement for

alternative uses, and for future conversion to other use should the economic situation so demand. Spans of new buildings have increased from 40 feet in the mid-1950s to 60 feet in 1960, with 70 and 80 feet spans a possibility.

The old buildings can be and are still used for fringe requirements, as loose-boxes and as stores for grain, straw and packaged feedstuffs and fertilisers. The new regulation requiring a protective cab on the tractor, however, will soon pose further problems in low buildings. But more serious is the expense of maintaining cobble, stone or brick walls and pantile, stone-slab or slate roofs.

Additions and replacements, and repairs and alterations too, are made in the cheaper and more easily adaptable products of industrialised building, in standard components of newer materials: concrete blocks, steel and concrete frames, corrugated and sheet asbestos, timber, and resin-bonded glass fibre.

Silos up to 70 feet tall and many other agricultural buildings can be built without planning permission as "permitted developments", and "need meet only basic requirements". Financial grants favour new buildings rather than adaptations, and the cost of maintaining access roads urges newer buildings towards the main highways.

In general then, the new buildings are different both in scale and materials, and the farmhouse will no longer be the dominant single building in the group.

Aesthetic deterioration in farmsteads has already caused concern to the County Councils' Association and to the Rural District Councils' Association, who have been urging greater planning control ("The Guardian", 21 April, 1966). "Drastic changes in the height and shape of future agricultural developments" may come, and the use of plastic vacuum silage containers may even side-track the green-feed silos. But in the meantime the rape of the farmstead is in full swing, and it may not be too strong to say that, on present trends, traditional farmsteads as we know them are doomed to extinction.

SPECIFIC CHANGES IN FARM BUILDINGS

Changes have taken a number of specific forms, not all of which are by any means recent in origin. They are already widespread, some affecting individual buildings, others the whome farmstead.

(a) Changes in individual buildings.

There is a bewildering array of piecemeal alterations and conversions, the product of a long series of changes. No farmstead has been found intact, as originally built.

1) Disuse and decay. Certain buildings are simply disused and decay, particularly the smaller and more specialised ones such as pig-sties,

farm smithies, hen-lofts, pigeon-cotes and the "outside living room" or "Paddy's cot", where the itinerant Irish farm labourer temporarily slept.

2) Demolition occurs, to replace by new buildings for a similar or different purpose. With greater prosperity a modern house replaces the old. Whether decrepit or not, the horse-wheel shed may go: its shape and size limit its possible uses, and its demolition makes way for larger, lean-to buildings backing on to a far greater length of the barn. Wheel sheds may well have been more numerous than now. Of the 36 farmsteads recorded by the writer herself, there is, at the present stage of investigation, definite evidence that 24 did formerly possess a wheel-shed, but 8 of these have been demolished and one is in ruins. In a certain township there was a wheel-shed in each of the 8 farmsteads recorded but 5 have entirely gone, one was largely rebuilt and only two remain more or less structurally intact.

3) Change of use without structural alteration. This is quite informal; for example, wooden byres are used for calves, stables for calves or pigs, wheel-sheds as loose-folds or stores, cart-sheds as garages, tractor-sheds or stores, and so on. At an earlier stage documents can list slightly different uses within the same set of buildings.

4) Change of use by deliberate conversion for a purpose quite different from the original one intended. Though possibly appearing to be fairly intact from the outside, the interior may be gutted, in which case clues to original use may be noted in chance survival of remnants of fittings or partitions, the general form and position of the building, the blocked doors, windows and arches, or the recollections of the farmer, or of his neighbours if he is a newcomer. Blocks of small fattening-boxes are in this way cleared out to house considerably more animals roaming at large within, and stables are often stripped of their partitions and racks. Former uses may be concealed by false roofs, lining or padding of walls and concreting of floors. Six of the Tees Valley farms visited use nearly all their old, miscellaneous buildings for intensive pig-rearing. One courtyard-type steading, an extreme case, is now little more than four outer walls fencing in an assortment of roofs.

5) Modernisation for the same use. The byre and the dairy have necesssarily been modernised or even rebuilt to comply with hygiene regulations. Wooden fittings are banished, concreting and whitewashing the rule. The granary, and other suitable buildings, too, are lined and filled with bulk storage bins and drying apparatus. Open fold-yards are being covered, a process which goes back at least eighty years in this district on evidence so far gained and was being recommended nationally over a century ago. Houses, too are being "done up".

6) Alterations of access. Larger entrances are required for modern mobile machinery. Arches and doorways are enlarged, and completely

new entrances made. In several cases the wheel-house has gone to make way for a tall opening right through the barn; the barn door tall enough to take a loaded waggon does not appear to have been common here as compared with the Yorkshire Dales and west of the Pennines nearer the Lake District, where it is often porched. Perhaps the small cart used in the district would take only lower loads? Entrance arches may be a mere 7 feet 6 inches at the highest point.

7) Additional buildings. Rare, if non-existent, is the farmstead without casual additional buildings, beginning long ago with the lean-to of wood or corrugated iron, the galvanised Dutch barn which one tends to accept as the normal thing, the ex-railway carriage or box-container and the galvanised or wooden shed. No doubt these reflect rising yields, changing systems, expansion or extra "lines". Additions from the 1950s, however outpace anything previously added, and now often overwhelm the old nucleus of the steading, which may, indeed, be scarcely visible.

Attitudes to the old buildings vary greatly. For example, one farmer still keeps his horse harness on the pegs in the stable and repairs his stone roofs with slabs from other old buildings in the district as they become available. On the other hand his neighbour in a similar steading believes that "you've got to farm in thousands these days" and accordingly has gutted his original buildings to a mere rectangular shell and surrounded this with a much larger area of modern pens and sheds.

(b) Changes affecting whole farmsteads.

Other changes concern the condition and the very existence of whole farmsteads.

1) Amalgamation. Farm holdings have been engrossed by amalgamation with others, not only locally but also at considerable distances. A lowland farmer, for example, also "ranches" at another holding in the dales. The surplus steadings of the "off-farm(s)" lie unmaintained, used only for storage or as folds, or let or converted as country "cottages".

2) Desertion. Marginal farms of the moorland fringe have been deserted; the receding tide since the high-water mark of the enclosures of the late 18th and early 19th centuries has left a spattering of crumbling buildings like so much driftwood. Farming settlement was carried to impressive heights towards the moorland watersheds, especially in the lead-mining dales of the North Pennine Orefield; Grasshill Farm at 1,980 feet in Upper Teesdale is stated to have been the highest habitation in the British Isles (L.U.S. Report, Co Durham).

Whether, in such remote high-altitude areas of difficult climate and terrain, pasture-renewal without deep ploughing by means of the herbicide "paraquat" will reverse the trend of settlement-desertion remains to be seen.

In the meantime, however, the population of Upper Teesdale declined

by 11% in the ten years 1951-61, and by 33% in the settlements at the head of the dale. Weardale suffered heavily from outward migration in the early decades of the present century, in 1900-15 and 1926-36, and population fell by 600 in the 1951-61 decade. (J.W. House, "Rural N.E. England, 1951-61".)

3) Losses to non-farming land-use. Even dale farmsteads on the lower slopes have been lost or threatened. Reservoir-building on the Balder, Lune and Derwent, and possibly in the future on the Tees has, by taking dale-bottom meadows and "in-bye" land undermined the farming system of steadings not actually drowned. Part of Balderhead Farm, however, was saved by dismantling for the Open Air Museum for the North-East. In a small Yorkshire dale change of policy on the sale of an estate was put forward as the reason for non-farming occupation of farmsteads; the slopes are now being afforested.

4) Casualties to "development". Farmsteads are still disappearing on the margins of expanding towns, in areas of large-scale industrial development and in the areas designated for the New Towns. Indeed many have been truncated, engulfed or demolished. On Tees-side over 3,000 acres of agricultural land were urbanised between 1943 and 1950, and over 8,000 more will be needed by 1971. (R.H. Best and J.T. Coppock "The Changing Use of Land in Britain".)

Change appears at an early stage when part of a holding is lost, and the consequent adjustment in farming system affects the uses of buildings. As urban settlement draws close, vandalism has direct and indirect effects on buildings.

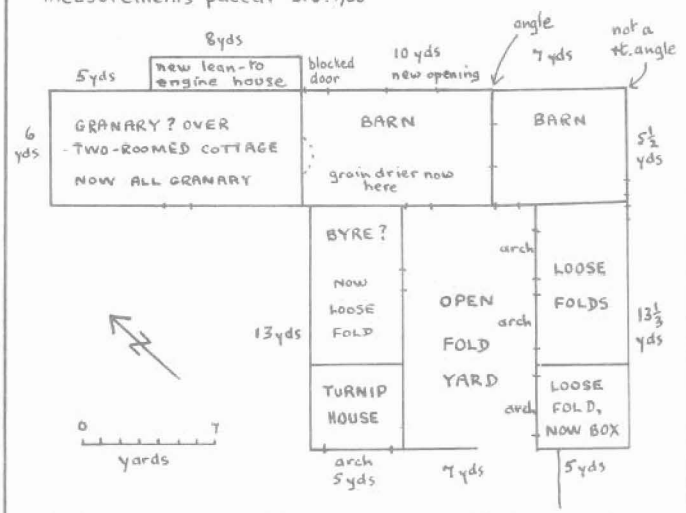
It is difficult to say where the greatest urgency for field-recording lies, or to generalise in so individual a matter as farming. Some districts appear to be less altered than others, for instance parts of the lower dales where continuity of occupation and an ageing population are factors resisting change (e.g. J.E. Waltham, J. Wheway and R. Giles, "Middle Swaledale"), and examples of survival may be the incentive to record. The large, prosperous and progressive farms are changing fast, and the "threatened" farmsteads also call for early attention.

Yet even the more conservative areas will change as a younger generation takes over. A chilling pointer to the future appeared in the recent House of Lords enquiry into the proposed Cow Green reservoir. This referred to a possible alternative site at Middleton in Teesdale which would have affected 39 holdings and drowned 20 homes. The Chairman of the R.I.C.S. said that "in the normal course of good estate management these 39 farms would be in the next twenty years be merged into two farms only, one on each side of the river". (quoted in a letter to the "Northern Despatch", 23 Dec. 1966, by the N. Riding and S. Durham County Secretary, N.F.U.)

A PIECEMEAL FARMSTEAD

based on field recording MIDDLE TEES VALLEY

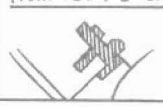
measurements paced. 3:6:1966



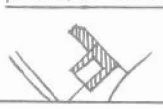
Probably about 40–50 acres: an off-farm not lived in since at least 1906, except by occasional Irish labourer. Wooden gutters throughout, but iron drainpipes. Walls whitewashed; different building stones, joins, trusses, arches and arrangements of ridge tiles, and partial covering of barn slits point to sev. stages of building. Folds' roof pitch less steep. No wheel house remembered though farmer here since 1906, but old O.S. map shows one, long demolished. All bldgs. pantiled.

UB.

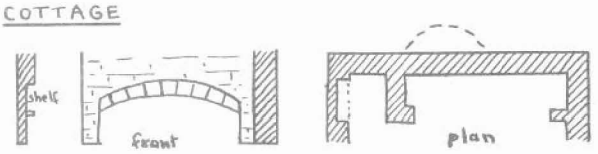
from 1857 6" O.S. map



from 1917 25" O.S. map

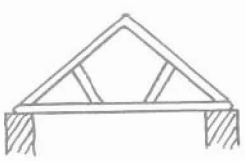


COTTAGE



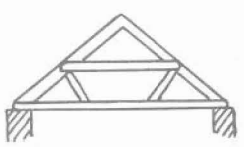
Fireplace at E end with large "inverted funnel" chimney and former bulge behind. Low upper storey open to rafters.

COTTAGE



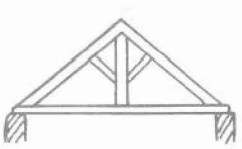
Magnesian limestone rubble walls. Cottage and large barn same height.

LARGE BARN



Sandstone walls. Ridge tiles laid overlapping.

SMALL BARN



Not in line with cottage and large barn, and height slightly lower. Walls of mixed boulders.

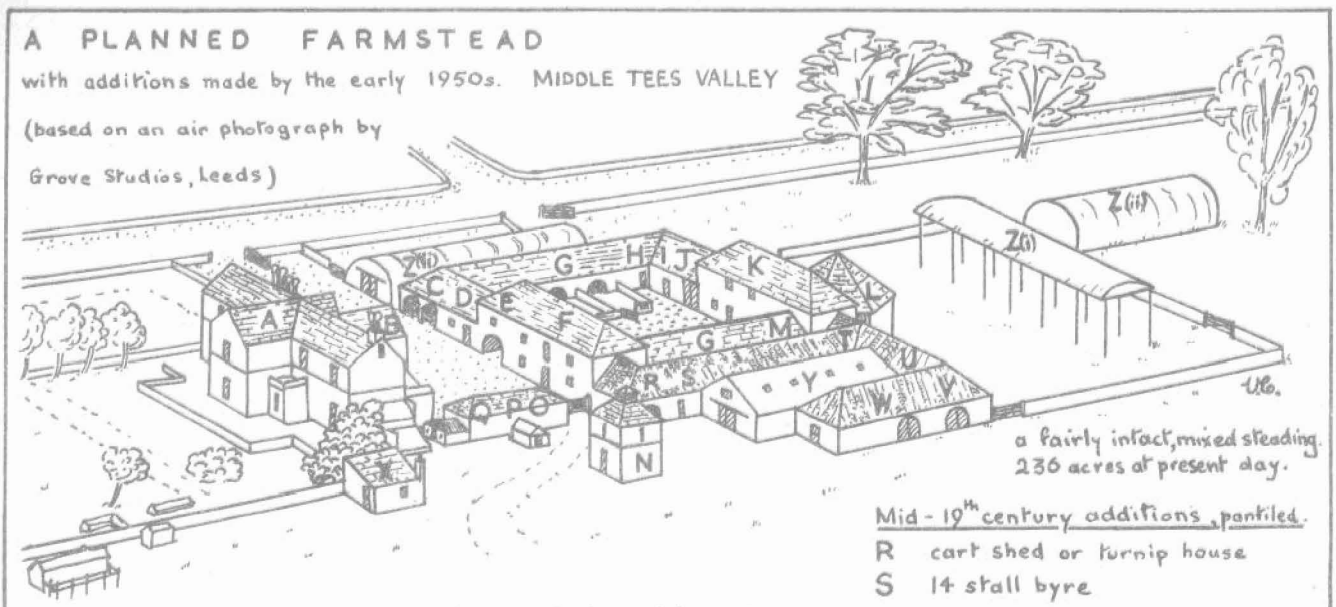
FOLDS

West block partly covers barn slits. W. block has keystone in arch and door; E. block arches have brick edges. Prob. sev. stages blg.

A PLANNED FARMSTEAD

with additions made by the early 1950s. MIDDLE TEES VALLEY

(based on an air photograph by Grove Studios, Leeds)



UB.

a fairly intact, mixed steading. 236 acres at present day.

The main layout built about 1832: stone, with stone-slab roofs.

- A house
- B granary over dairy
- C cart shed
- D stable for 2 light horses + loose box
- E granary over entrance arch
- F hay loft over stable for 6 heavy horses
- G cattle sheds with separate fold yards
- H small byre
- I 8 stall byre
- J turnip house
- K barn
- L horse wheel shed
- M loose box for 4 or 5 calves
- N pigeon cote
- O calf house for 4
- P wash house
- Q 2 pig sties

Mid-19th century additions, pantiled.

- R cart shed or turnip house
- S 14 stall byre
- T store
- U 2 cattle sheds
- V implement house
- W 2 calf boxes

Recent additions

- X Irishman's house
- Y modern byre in former fold yard
- Z(i) Dutch barn
- Z(ii) post-second world war sheds

The main yard was covered in 1964 and two other large sheds have now been added

A Simple Recording Scheme

At the suggestion of Frank Atkinson, the writer began in 1964 an informal voluntary group project to devise a scheme for recording farm buildings. Aims are two-fold:

1) the general aim to record farmsteads as workshops.
2) the specific aim to find out what kinds of farmsteads to erect at the Open Air Museum as truly representative of the North East.

An initial scheme with features tabulated in code numbers was tried, but thought too sophisticated for the vernacular buildings, and did not cope with the mutiple alterations. It was also too slow and complex for the wide coverage it was hoped to achieve and the amateur help it was hoped might be forthcoming from schools, colleges, local societies and individuals.

Twin problems are the speed of change and the sheer number of sites involved, the latter a problem not presented so acutely by other industries which receive the attention of industrial archaeologists.

These factors pointed to a survey in breadth rather than in depth. Thus a simple survey has evolved, from which general patterns of style, content and lay-out should emerge. More significant and more intact examples could receive detailed attention, including also a study of fittings.

The basic features to be recorded are:

1) The building-style and construction

2) The content (the original function of each building)

3) The layout of buildings and yards

The record consists of:

1) a simple plan of the whole layout, with each building labelled by original function when first built and present day function, with measurements stated alongside (paced or taped).

2) brief comments alongside the buildings on any relevant points (e.g. dates and initials inscribed on buildings; alterations with dates; types of power used, with dates; changes in ownership; water supply, etc.)

3) photographs: a lavish number to show style, materials, methods of construction, alterations and layout. 12 to 20 photos per farm are needed, possibly more. The layout as a whole, and each building from different positions should be made clear.

The Bowes Museum is the repository for the plans and photographs. It provides black and white films (120 or 35mm), develops and prints them, retains one copy, and returns one to the recorder. The Museum will also photocopy and return plans if requested. Thus both recorder and Museum will have a full record. It is vital to centralise the records so that comparisons may be made and conclusions drawn.

Instruction sheets are issued by the Museum on application. Farmsteads already visited are listed at the Museum, and this list will be published in a future Bulletin.

Experience so far shows that the best results are obtained where a family has been tenants or owner-occupiers for several generations, and can recall and give date to alterations and demolitions. Even much-altered lay-outs can be unravelled and the original reconstructed given a little time and patience on both sides. An hour and a half to two hours per farm is usually adequate.

Where occupiers are new the information will be less complete, and one must rely on careful observation of buildings and fittings in order to define the intended use. Neighbouring families may be able to supply missing information. This is an argument for concentrating on one district at a time: a parish, township or estate. Furthermore marriage within a locality often means that relatives can help. A striking instance of this came where the elderly mother of one farmer could completely recall the details of a neighbouring farm now gutted, at which she had spent her childhood from birth: this was achieved despite her stone-deafness which obliged the writer to converse by means of pencil and paper, a hard but enjoyable and rewarding afternoon's work with a delightful person.

On the other hand a school which serves a mainly rural catchment area found it convenient to record the scattered farmsteads at which sixth-formers actually live.

A useful aid possessed by some Tees Valley farmers lies in the low-altitude, oblique air-photographs taken by two Leeds firms in the early 1950's, often catching the farmstead before the main spate of sheds, silos and demolitions. A second version taken in the early 1960s is sometimes available.

A sale catalogue or tenancy agreement may be a useful guide, giving building-use at a particular date, but it does not necessarily identify the original purposes of the buildings. For instance, a wheel-shed would not usually be listed as such in the present century.

"A coat of many colours"

Our legacy of farmsteads is one of great variety, and it may be useful to review briefly some of the threads which have gone into weaving of this "coat of many colours", and some of the questions that might be posed as we look at these "fossil" buildings left over from the era of the horse, one manifestation of the passing of an old rural way of life. Many farmsteads are quite splendid buildings, but the humbler ones are potentially significant, too.

Some, as evidenced by the unity of materials and construction, and by their regular plan were built, or rebuilt, as a whole, and might be termed the "planned farmstead". "Work-study" is not a new conception. Ideally-arranged, commodious, labour-saving "farmeries" were being advocated by nineteenth century writers. How many of these, however, were actually built?

Others, by their irregular plan and mixture of materials and construction proclaim their evolution by accretion, extension and alteration. Are these the more usual?

The type of farming practised should be reflected in the type of buildings. What differences were there between moorland, dale and lowland farmsteads, and between those where emphasis lay on pastoral, arable or mixed?

Farm holdings vary vastly in size. Did the small farm have the same variety of buildings as a larger one practising the same system, or only a selection? Writers were recommending the latter, with buildings put to alternative uses.

Estate farmsteads are often recognisable in that estates tended to have their own styles, plans and ornamentation, and brought alien styles to a district. What were the styles of the large North-Eastern estates? Documentary help is available here. Estate building, however, was not necessarily homogeneous: estates may have grown up over a period and incorporate various styles: rebuilding programmes may have been only partially completed when funds ran out or the economic climate became unfavourable. Moreover, the breaking up of estates on sale brings divergent development.

Vernacular building is potentially of great interest since it more closely reflects its locality. To what extent do the yeoman farmsteads of a district resemble each other, and differ from those farther afield? Do they reflect, perhaps, the peculiarities of certain craftsmen? Did different dales produce their own styles, and if so, why?

There appear to be survivals of old traditions. The long-house peasant-dwellings being revealed in the excavation of local deserted medieval village sites may be represented in linear farmsteads erected even as late as in the case of nineteenth century enclosure farmsteads. Simple materials are still to be seen in use: boulders from the earth, cobbles from the river, heather thatch from the moor, the last now, however, very rare.

Note, too, local names for buildings. North-eastern cows winter in a "cow-house", "shippon" or "mistal". The wheel-shed for the horse-gin also has a variety of names. Alternative names met so far are listed in Appendix A, a check-list of old style buildings. It is most useful to record the actual term used by the farmer himself.

One would expect the date of building to reflect current styles and ideas. Is this more evident in the house than in the outbuildings? There is the time-lag factor in the North, too. For instance, covering of yards is still proceeding, though advocated over a century ago. On the other hand the horse-wheel invented in Scotland in 1788 spread rapidly south (F. Atkinson, "The Horse as a source of Rotary Power"), and was introduced into the North Riding "about the year 1790" (J. Tuke, "General View of the Agric. of the N.R. Yorks."). Dating of buildings in the field difficult, and objective recording is the aim.

On general grounds one might expect a larger proportion of older buildings in the North than say in the Midlands, particularly since the enclosure of townfield lands was in the main completed in the seventeenth century. There may be some earlier buildings, but certainly one can look to the 18th-19th century expansion in the lead-dales, and extension on to commons enclosures on the upland slopes, moors and lowland commons. How, too, were the better breeds and higher crop-yields houses, and the developing machines? Was it common for new outbuildings to be added later to 17th and 18th century houses? And did new building really die out after 1880 when the years of depression set in?

A village site was restricted and elongated as compared with the unhampered scope of a "greenfield"site in the open countryside. How did this affect their respective layouts? Whilst a village farm used the general village smithy, isolated farms, especially the larger ones, had their own smithy to which a blacksmith came by arrangement, for example, fortnightly from Gainford.

Purely physical considerations, too, had their influence: altitude, exposure to weather, aspect, slope, drainage, water-supply, shelter for stock, access. Commonly the fold-yard opened southward, with

the tall barn affording protection on the north. On steep slopes the field byre may be entered from downslope and the hayloft directly from the higher ground-level behind.

Building materials produced one of the most immediately visible differences. Varicoloured river-pebbles and sub-angular boulders of far-flung origin from the glacial drift provided a handy material when braced with stone quoins and lintels. The type of stone won from the local quarry varied greatly over the North-East: red Trias sandstone, buff Magnesian limestone, strongly brown Coal Measures sandstone, pale grey and nearly black Carboniferous limestones, dark blue-grey igneous whinstone. Type and size of brick, pantiles, thin fissile roofing stone, and with widening communications slate, iron and other manufactured materials have left their varied mark. To what extent did style arise from the natural characteristics of the local stone, and variations therein? One can think of three kinds of Magnesian Limestone used separately, or in combination with each other, or wedded to Coal Measures sandstone: thickly-bedded (e.g. Aycliffe), thinly-bedded (e.g. Ferryhill) and angular brecciated (e.g. Whitburn). In the countryside, too, old materials were re-used.

How do existing buildings reflect the technological changes, the change from hand tools to powered machines? The commonest and most obvious building in the North East is the wheelhouse. Appended to the back of the barn, polygonal, hexagonal or round in plan, with a smooth or a facetted roof like a bell-tent, or rectangular and less obvious, open-sided with pillars, its two thicker side-pillars supported the beam for the overhead horse-gear which drove the thrasher, chaff-cutter and turnip-chopper in the barn. Though becoming obsolete from the mid-nineteenth century, it was still in use in places in this century. Less easily identified is the site of the former ground-level horse-gear without roofing.

Much rafer appears to be the use of a farm water-wheel, but seach may reveal more. One at Blanchland is preserved for the Museum, and one was used at Summerhouse, but 13 have been located on Dorset farms (J. Addison and Rex Wailes, Trans. Newcomen Soc. 1962-3). Occasionally a farm appears to have grown up around an older(?) water-driven corn or other industrial mill, as at Denton, Alwent and Crathorne, and a turbine was used at Killerby.

Steam power was being recommended for larger farms in the mid-nineteenth century (e.g. J. Bailey Denton, 1864), and the factory-like chimney for a fixed steam engine is common on the large steadings of Northumberland where corn and coal were cropped in the same locality. On two random car journeys in Northumberland last year,

the writer "spotted" 25 in the coastal plain and a further 5 between Berwick and St. Abbs. Again on general observation they appear to be less common in County Durham, and only three have so far been noted within a wide radius of Darlington. An N.F.U. representative points out that the large holdings of Northumberland were better able to afford the considerable capital outlay that the expensive fixed steam equipment required. In how many cases has a chimney been dismantled, or is it something of a status symbol? Was the portable steam engine much commoner? Gas engines,diesels and electricity have superceded horse and steam. Note should be taken of the types of power used and dates of changeover. In the fields, too, horse, steam engine and tractor in turn have powered the cultivation, thrashing, lifting, loading and transport.

A model of John Fowler's steam plough appears on a memorial plinth in South Park, Darlington. Perhaps we should now also erect a statue of a farm horse, for in not one of the farms visited by the writer in 1964-66 was there still a farm horse. One of George Ewart Evans' Suffolk ploughmen remarked ("The Horse in the Furrow") that soon we should have to go to the Zoo to see one. How much better to be able to go to the Open Air Museum for the North East and see one really in action.

Appendix A
CHECK LIST OF OLD-STYLE BUILDINGS

This is based on general nineteenth century literature and on sales catalogues and field-work in the Middle Tees Valley. It comprises alternative names for buildings so far met, and may need additions as work proceeds.

The Horses

Stable, stable for heavy horses
Hackney stable, stable for light horses
Loose box, loose house
Hay loft, hay store, hay barn, hay room, chaff room
Harness room
Gig house, trap house, coach house
Cart shed, cart hovel, cart lodge, waggon shed, waggon hovel

Implements, processing and storage

Wheelhouse, wheel shed, wheel rig, gin house, horse track, horse path
Engine house (steam, waterwheel, diesel, electricity)
Mill room
Barn (general or specialised, e.g. hay barn, straw barn, thrashing barn, sheaf barn)
Dutch barn, skeletal barn
Granary
Wool room, wool shed
Yard, garth, rick yard, stack yard, muck yard
Implement shed, -room, -house, tool house, machinery house
Smithy, forge, blacksmith's shop
Joiner's shop, carpenter's shop
Wheelwright's shop
Weigh house
Office
Wash house (for family wash, but often part of outbuildings)
Brew house
Bake house
Coal house, coke house
Sticks house
Potato store, taty hole
Slaughter house
Cider press room
Cider cellar
Apple room, fruit store

Stock

Cattle shed, cattle shelter, shelter shed, open shed, feeding shed, loose fold, hovel — Loose
Fold yard (open), covered fold yard, feeding yard — Loose
Calf house, calf box, calf pan — Housed
Stirk house — Housed
Loose box, loose house, fattening box, feeding box — Housed
Bull house, bull pen — Housed
Byre, cow house, shippon, mistal — Housed
Sick bay, house for sick cattle — Housed
Sheep house — Housed
Turnip house, root house — Foddering
Hay loft, hay store, hay barn, hay room — Foddering
Straw room, straw bay — Foddering
Meal house, meal store, corn bay — Foddering

Cake house, cake store — Foddering
Foddering bay, foddering passage, walk way — Foddering
Mixing house — Foddering
Boiling house — Foddering
Dairy, milk room — Milk
Cheese room (for storage) — Milk
Press room, drying room (for cheeses) — Milk
Vessel shed (washing and drying), scullery, wash room — Milk
Churning room (for butter) — Milk
Pig sty, hog sty, piggery — Small stock
Hen loft, hen roost, hen house, poultry house — Small stock
Geese pen — Small stock
Pigeon cote, pigeon loft — Small stock
Manure pit

Other buildings etc.

Farmhouse
Cottage, hind's cottage
Outside living room, Irishman's house, Paddy's cot, bothey
Privy
Ashes
Lime house
Well
Pond
Trough
Pump
Cistern, tank

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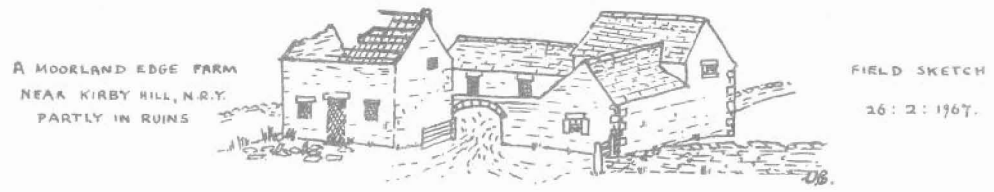


MODERN FARM BUILDINGS OBSCURE A COBBLED REMNANT BESIDE B 6275, N.R. YORKS.

Chaldron waggons at Seaham Harbour

We are indebted to the Editor of the 'Industrial Railway Record' (published by the Birmingham Locomotive Club) for permission to reproduce the measured drawing by Mr. K. Fleming. Our thanks are also due to Mr. Fleming for his permission. In the Industrial Railway Record No. 10 (June 1966), this drawing was published together with a list 18 wagons seen at Seaham Harbour by Mr. Fleming in 1964.

These wagons so seem to typify the North East that we use Roy Varndell's drawing of one for our own symbol.

Perhaps one day we shall have time to list all the remaining examples (possibly about 30?) The Seaham Harbour Dock Board who still have about 15, and the Coal Board who own a similar number have each promised them to the Regional Open Air Museum. Additionally the Museum has two restored examples in store at Durham, there is one in the Clapham Transport Museum in London and two stored (together with a "coffee-pot" locomotive) outside Head Wrightson's works at Thornaby.

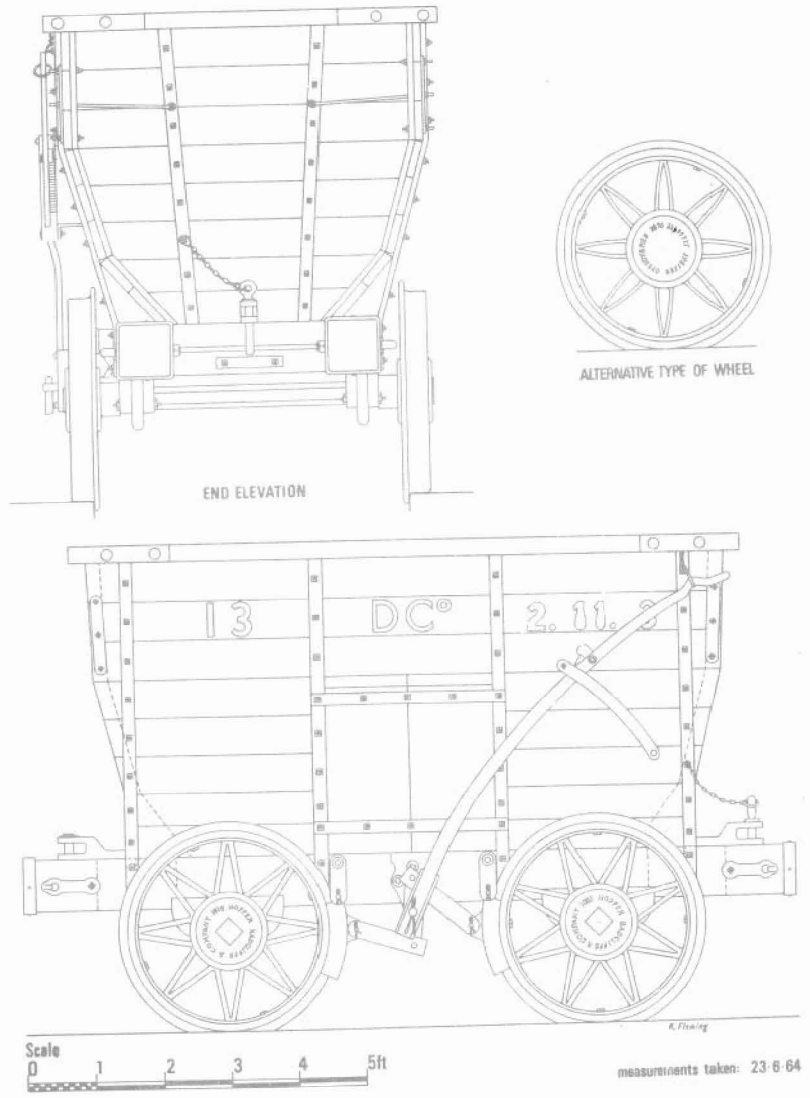
Many late 19th century photographs of pit-heads in the Great Northern coalfield show long lines of these wagons, and this is why the Regional Open Air Museum needs to preserve at least about thirty. Nothing will help to give that northern 'flavour' better than these wagons standing at the Museum pit-head.

Hunting the Waddle

Under this headline we have appeared in 'The Times' (7 April 1967), whose readers were told: ..... "In the 1880's they were all the vogue for ventilating collieries and now the Industrial Archaeology Group for the North East wants to unearth specimens that may still be lying around, perhaps at the bottom of someone's garden....."

Clearly 'The Times' has never seen a waddle wheel, for a 30ft. monster would not be easily overlooked, at any rate in our garden.

Nevertheless one has turned up: of a mere 12ft. diameter, in a Cleveland ironstone mine and we are awaiting more detailed information from Mr. K. Chapman of Brotton.



Famous North Easterners

Late last year the Washington Development Corporation thought it might be a good idea to draw up a list of names of prominent North East scientists and industrialists, with a view to selecting from these, in order to name industrial sites within the town. Here is a list of 16 which I produced as a sample. Can any of our members suggest others?

FA

Lord ARMSTRONG
Designed hydraulic engines etc.

John BUDDLE
Early 19th century coal 'viewer'. Proposed air-circulation in panel-worked coal-mines.

Ambrose CROWLEY (1658-1713)
Brought iron industry to Sunderland, then moved it to Winlaton and Swalwell. Very important iron-master of early 18th century.

Phineas CROWTHER
of Newcastle. Invented the vertical steam engine (1800), used for colliery winding in the North East for many years. (The last engine, built to his general design, was closed down in 1961).

William EMERSON
Mathematician of the 18th century. Lived at Hurworth near Darlington. Wrote 'Principles of Mechanics' (1758).

John FOWLER
Mid 19th century civil engineer. Designed multiple plough to be drawn by traction engines. Built steam engines. His monument stands in Darlington Park.

Timothy HACKWORTH
Built steam locomotives at Shildon. Noted competitor of Stephenson.

Thomas HEDLEY
In 1837 started soap-making in Newcastle. (His firm is now Procter and Gamble).

Sir Charles PARSONS
Invented the steam turbine ('Turbinia' is preserved at Newcastle).

Hugh Lee PATTINSON
In 1833 patented process for extracting silver from lead. In 1841 patented method of making magnesia from dolomite. Helped to start the Washington Chemical Works.

Thomas SOPWITH
Leadmine agent in the early 19th century in Weardale and Teesdale. Responsible for many mining developments.

George STEPHENSON
Robert STEPHENSON
Need I say more?

Joseph Wilson SWAN
Born Sunderland 1828. Designed the first incandescent electric lamp.

Benjamin THOMPSON
In 1812 constructed the first coal crane or 'drop' for loading coal on to boats without breakage (at Bewicke Main Staith on Tyne).

Joseph WALKER
Invented the friction match in 1827. Had small pharmaceutical shop at Stockton-on-Tees.

Yorkshire

A brief selection of northerly sites, from our check list.
A fuller check list will be included in Bulletin 4.

Place	Classification	Object	Map. Ref.
Bedale	Transport: canal	Canal basin	/SE 271880
Boosbeck	Iron mining	Deserted mine	/NZ 652 149

Brignall	Power: water	Corn mill	/NZ 046 112
Catterick Bridge	Transport: road	Bridge	91/SE 227 992
Cronkley Scar	Minerals	Pencil mill	84/NY 844 296
Deepdale	Transport: rail	Viaduct	84/NZ 017 162
Easby Mill	Power: water	Corn mill	86/NZ 579 090
East Layton	Minerals: lime kilns	Railway lime kilns	/NZ 169 112
Egglestone Abbey	Power: water	Corn mill	84/NZ 064 151
Forcett	Minerals: lime	Limestone quarries kilns.	85/NZ 169 109 85/NZ 169 111
Gilling West	Agriculture: threshing	Chimneys	/NZ 167 053 /NZ 186 040
Great Ayton	Power: horse	4 horse wheel	/SE 570 076
Greta Bridge	Transport: road	Bridge	/NZ 086 131
Holwick	Transport: road	Bridge	84/NY 903 279
Ingleby Greenhow	Power: water	Corn mill	86/NZ 577 068
Kirby Hill	Minerals: lime	Lime kilns	/NZ 057 065
Leeming	Transport: water	Canal lock	/SE 287 892
Leeming Bar	Food processing Iron working	Brewery Foundry	91/SE 286 901 91/ SE 288 900
Lingdale	Iron mining	Mine	/NZ 676 165
Lunehead	Lead crushing Leadmining	Mine Mine	84/NY 847 207 84/NY 854 204
Mickleton	Minerals: clay brick	Brick works	84/ NY 979 225
Middlesbrough	Transport: road	Bridge	/NZ 500 213
Middleton Tyas	Minerals: copper	Copper pits	/NZ 234 056
Newsham	Power: water	Corn mill	/NZ 109 099
Newton Morrell	Agriculture: threshing	Chimney	/NZ 239 095
Redcar	Transport: water sea	Breakwater	86/NZ 557 275
Rosedale	Iron mining	Furnaces & housing	86/NZ 706 981 86/NZ 721 950 86/NZ 707 982