

Masterclass:

Random walling (part 1)- a theoretical background.

Ever since writing *"Dry Stone Walling"* ("DSW") I have wanted to tackle "Random Walling" in far more detail. Observation suggests that there are far more random walls in Britain than coursed ones. There must therefore be tens of thousands of miles of "random" wall and as such "random" becomes a bit of a catch all, it hardly does the variation justice. As such you cannot really tackle how to build a random wall without identifying basic types, unfortunately this is a far from simple task. Even less straightforward is then describing a simplified method. To date both aspects have been far too daunting to tackle. I dipped a toe when writing *"DSW"*, but it ended on the cutting room floor and limped onto my website where it has sat unfinished for almost 10 years.

Now the time has come to grasp the nettle but, for better or for worse, it is going to take a while. This is the first in a series of articles, it deals primarily with the theoretical background, subsequent articles (perhaps hopefully) will deal with the actual process/method at a basic level, then the don'ts and problems to avoid, other random patterns and how they relate to the basics and after that who knows, maybe a (fanciful) avalanche of queries, which will help me to refine my thoughts and explanations. Well that's the plan... Paracetamol at the ready let us begin.

First a little philosophising (a few random thoughts?)....

I believe that whilst walling has rules, they are essentially made to be broken. The perfect wall probably does not exist, the best walls have a minimum of faults, the best wallers minimise these faults. Any fault means a rule is broken wittingly or otherwise. However before you can go around breaking rules willy-nilly, you must first appreciate that they exist and furthermore understand why they are important. If you break rules without realising or appreciating what you are doing, the wall if it stands up, only does so through luck. If you make a conscious decision to break a rule, assuming you appreciate the various nuances involved (presumably you will similarly decide not to compound faults or problems) the wall might fall down if your assumptions are mistaken, but hopefully it will stand up. Generally problems occur or longevity is compromised, where faults are unwittingly compounded, or are so serious in their own right that they severely compromise the wall's structural integrity. I am of course assuming that no-one reading this would deliberately overlook serious or compounded faults.

Along the same lines as this 'breaking the rules' argument it is my contention that much of walling is simply applying a method, an approach. Whilst you can vary this and adapt it, developing your own style, to fulfil your full potential you first have to understand the method. Similarly if you have little grasp of exactly what a random wall is, or rather how random walls vary, then how can you really build one properly?

Whilst you can achieve much by luck rather than judgement and through intuition, for the majority to develop their talents fully they need to understand and appreciate what is going on. Those that understand the method and apply it (in some cases somehow intuitively), and learn from experience, are dry stone wallers, others – the vast majority - are simply people who build walls, whether it be well or more likely averagely at best. Dry stone wallers do it naturally!

Ruminating on masonry terminology

Whilst dry stone walling has been around considerably longer than masonry - that is mortared stonework; it has far fewer technical books dedicated to it and a dearth of widely accepted definitions of patterns compared to masonry, which even has British Standard patterns and definitions. Whilst not always relating perfectly to dry stone walling some understanding and discussion of this

terminology is useful in trying to identify general patterns and establish nomenclature within dry stone walling.

Of course nothing is simple. It's a bit like having an expert on broadleaf trees who can identify hundreds of sub-species of willow, but regards all conifers as 'those green things with needles'. At best you get a grudging mention that not all stonework contains mortar, and not even lip service to the idea that there might be more than one type of dry stone wall.

In masonry you will normally see stone referred to as "ashlar", that is squared stone. It is often sawn although technically it can be wrought or hewn, so you can get rough faced ashlar, axed ashlar etc. Virtually anything else is referred to as "rubble", defined by the Shorter Oxford English Dictionary as *"pieces of undressed stone used in building walls"*, although sometimes a distinction is made between rubble and cobble, cobbles (sometimes called fieldstones) being naturally rounded. I suspect that most dry stone wallers would see rubble as being only the worst stone imaginable.

Nickey in *"The Stoneworkers Bible"* (TAB Books, Pennsylvania.. 1979. p.86) takes the definition a little further: *"irregular shaped and hard to shape stones, such as those with untrue faces and indistinct bed lines that make them unadaptable to horizontal beds, are used as rustic [rough faced] rubble stonework. Stones having bed lines or natural stratified bed lines, as well as those that are scabbled [roughly flattened faces, not finely tooled], after squaring or having their joint lines pitched [squared off with a chisel], be used in first class rubble stonework"*. Note that within this analysis even the best hand dressed walling stone is still only good for rubble stonework.

Whilst this at least hints at stone shape having some influence on things, strictly speaking within masonry terminology, even the most squared off, coursed stonework if not using ashlar, would still be a rubble wall.

This wall built out of level bedded limestone in Butterson, Derbyshire, is in masonry terms a rubble wall. As GAT Middleton points out *"The degree of regularity in rubble work depends in great measure on the nature of the stone used. Stones of an intractable nature such as basalt or stones of a crystalline structure, lend themselves best to rough rubble, whilst those which work more freely under the hammer are used for the more regular descriptions of rubble work."* (<http://chestofbooks.com/architecture/Modern-Buildings-Construction-V1/Chapter-XI-Stone-Walling.html>)



Limestone wall, near Butterson, Derbyshire
© S.Adcock

So where is this getting us....

The British Standards for masonry cover a number of rubble patterns, subdivided into random and squared. Random rubble comes in the following categories: coursed; un-coursed; brought to courses. Whilst squared random rubble can be categorised as: regular coursed; snecked; un-coursed.

If we just ignore the mortar component, these patterns can be applied to dry stone walling. In addition most masonry books refer to blocked rubble squared off this is somewhere between squared random rubble coursed and rough ashlar. For example the Butterson wall would fit here. Some of these will appear in later instalments for now we are concerned with random rubble, and coursed random.

So what is “random walling”.

In “DSW” I describe walling in layers, whether random or coursed you should still essentially build in layers. With coursed work the layering is far more precise, with only marginal if any differences in the heights of adjacent stones. In this respect most random walling is technically only less accurate layering and I suppose you could even argue it is just extremely poor coursing! In fact many wallers/judges seem to confuse a well structured random wall with coursed walling - perhaps after this series of articles you will see why. At its simplest level any wall where the stones in a layer are not more or less the same size can be said to be random. Just to confuse matters, as masons are wont to do, Nickey tends to refer to ‘range’ or ‘un-coursed’ rather than random.

Random Rubble

“Random rubble is the traditional or Early Celtic art of building with stone. It uses stones that are not squared but are irregular sizes bedded on mortar or other suitable bedding material.” I Cramb “The Art of the Stonemason”. (Betterway Books, Cincinnati. 1992. p.11)



Near Ystradfellte Powys © S.Adcock

extremely random, with a marked difference in the sizes of adjacent stones, and whilst there is a general grading of stone from large nearer the base to smaller nearer the top there is often a large number of smaller stones distributed throughout the face.

The wall right, at Blaen y Nant, Nant Ffrancon near Bethesda, is not as random as the Ystradfellte wall, there is better grading with fewer small

Blaen y Nant, Nant Ffrancon,
Gwynedd
© S.Adcock

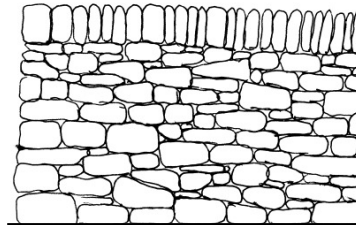


I’m not sure about early Celtic mortar, but that’s masons for you. Beyond that it is a fairly useful definition. As far as dry stone walling is concerned it is the default mode when a wall cannot be readily categorised within other patterns.

Random rubble is a specific term within British Standards for masonry. However given that by masonry definitions everything within dry stone walling is rubble, we need to be far more specific if it is to be of any use. Hence it is generally applied to the most irregular of stone used to build a face with little apparent pattern or readily discernable structure.

Above left the face of the wall is

stones scattered amongst the face. It might be possible to make a distinction between ‘random rubble’ (Ystradfellte) and ‘plain’ random (Nant Ffrancon); or perhaps following Middleton’s description and using ‘rough rubble’ to describe the Ystradfellte wall and ‘random rubble’ to describe the one in Nant Ffrancon. Something I need to give more thought to!



Random rubble wall after McAfee

P.McAfee (“Irish Stone Walls”. The O’Brien Press, Dublin . 1997. p.44) provides a useful stylised diagram of the ‘less random’ pattern which he describes as ‘random rubble uncoursed’. There are perhaps a few too many ‘plumb’ joints, something we will touch on more next time.

McAfee points out that you can often see elements of coursing within a random rubble wall as it “makes it easier to break vertical joints and it is also quicker to build with stones of a similar height” (“Irish Stone Walls”. p43)

One consequence of his is that the more regular stone, often the more coursed it can look. This is particularly marked with more regular stone. However, whilst it is

possible to course boulders and/or rounded field-stone, rarely does a random wall built out of such material, however well structured, look particularly coursed.

From the front this wall could easily be mistaken for random rubble whereas an oblique angle clearly show coursing. Using rubble within the dry stone walling context rather than the masonry one, we could perhaps describe this as ‘coursed rubble’.



Coursed rubble wall, Tyddyn Isa, Tal y Bont, Bangor © S.Adcock

More Apparently Random thoughts? Random coursed or coursed random...

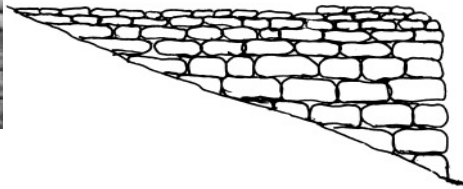
At this point it is as well to take a brief look at coursing, or at least random coursing. This has nothing to do with random walling, rather it is coursed walling where the thickness of subsequent courses



does not necessarily diminish. Normally this tends to occur more with stone where the stones do not vary very much in size (e.g. all 5-10cm thick), as with this wall in Chilson, Oxfordshire.

Masonry doesn't actually distinguish types of coursing, regarding random coursed simply as coursed. Some complicate matters further, Nickey uses 'random coursed' for courses of stonework 2 or 3 stones deep forming one thick course randomly, what we shall come to see (in an instalment or twos time) as 'random brought to courses'.

Disappearing off at an apparent tangent-coursed walling on slopes has to follow the slope rather than be set to a true level, otherwise the top stones become footings at some point, as shown in the diagram below.



Oolitic limestone, Chilson, Oxfordshire
© S.Adcock

Theoretically if you use random coursing and add some jumpers (i.e. stones which are 2 courses high) you can break the coursing. This can work on shallower slopes but the steeper the slope the more random the wall. That is however the stuff of building on slopes and beyond this scope of this article however random it is becoming.



Random wall built from regular stone on a slight slope including pronounced short sections of regular coursing. Little Everden, Northamptonshire.
© S.Adcock

What we are interested in is the idea that the coursing is becoming shorter and broken up, tending towards 'coursed random' walling, a fairly distinct style of walling which combines elements of both



Above, Longridge Fell, Forest of Boland , Lancashire.
Right, Sutherland, Scotland
Both © S.Adcock

A similar pattern can be seen in the wall right, in the extreme north of the Scottish Highlands.

Here the "coursing" is less distinct and the wall assumes more of a random appearance. As with all patterns there is some merging at the extremes accentuated by the regularity or irregularity of the stone used. Whilst regular stone tends toward coursed or more coursed work it does not have to be strictly coursed.



The photos below are of same wall in Llanberis the photo on the left is random rubble built by a waller from Derbyshire, verging on polygonal in places (see "Stonechat 15" or in another couple!), on the



Sections of same wall. Llanberis. Gwynedd © S.Adcock

coursed and random walling, and not to be confused with 'random coursed' however oxymoronic that might sound.

Essentially this is a random wall, built of relatively blocky, regular shaped stone. This is very similar to the touched upon 'random built to courses', in that it might occasionally have a distinct course where it has been levelled off. However the nature of the stone is such that any section of face contains short courses, which are broken by jumpers, and a general lack of overall pattern to the coursing itself.

the right just a few yards further along it is essentially random rubble verging on coursed random in places (by yours truly). Both have a more consistent pattern and more rigorous grading than the wall at Ystradfellte (earlier).

Further along its nothing to do with DSWA and could be best categorised as random rubbish!



Llanberis, Gwynedd © S.Adcock

The subtle differences in both random and coursed walls means that there can be a blurring or merging of types within either random or coursed or even between coursed and random themselves. For example at the extremes of the ranges of random brought to courses and coursed rubble the difference is often just attributable to the skill of the waller.

Confused yet? Had you ever imagined it could be so complicated, life was so much easier when random did just mean un-coursed. Oh to be a mason. Anyway that's the basic concepts dealt with, next time the basic

principles of building to a pattern and hopefully why I've chosen to deal with these patterns here will become clear.

Sean Adcock

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