

PROFESSIONAL COLUMN: *Waller and Dyker, Summer 2009*

Ends part 1

“There is a destiny which shapes our ends rough, hew them though we will”
Shakespeare. Hamlet act 5 scene 2

As DSWA’s “*Dry Stone Walling: Techniques and Traditions*” points out walls have to start and finish somewhere more often than not at gateways (and to a lesser extent corners) so wall ends (heads/cheeks) are something you are likely to encounter early in your walling career and frequently thereafter. Consequently their construction is a technique useful to master, and one that is then easily adapted for the more ‘advanced’ features which employ similar construction techniques, such as sheep passages (a.k.a *inter alia*; cripples, lunkies, creeps etc.), and right angled corners. In this respect ends can be seen as forming the backbone of the Craftsman Certification Scheme.

Chapter 9 of BTCV’s “*Dry Stone Walling*” (<http://handbooks.btcv.org.uk/handbooks/index/book/61>) deals with these features and once again this article is meant merely to supplement this rather than replace it. In this article I will hopefully highlight some common problems and mistakes associated with ends, in the next issue I will extend these ideas and also look at corners and passages.

I’ll start with a brief consideration of the setting of profiles, with specific reference to those taking intermediate tests. Fixed wooden frames are often used and set at the exact wall end. Set vertically the wall is built flush to them. Ostensibly this makes a lot of sense once set you do not have to keep checking that the end is vertical. They can however get in the way if using bigger and less regular stone where the use of line bars is probably more appropriate. Personally I prefer using bars in all instances but getting the profile right is a whole new topic! In addition to making the placing of stone awkward, the frames often mask part of the end. As a result faults here are common amongst those taking tests, with both the creation of joints in the end and misalignment of stone. To avoid this, the frames can be set a foot or so beyond the end, although you then need to keep checking the end for vertical with a spirit level. On many test sites where there a number of ends built into a single stretch of wall candidates cannot really do this. If two adjacent candidates wanted to the access gap between the 2 ends would be blocked. In terms of site organisation this is something candidates and organisers might need to consider further.

Back to setting frames against ends, they are often subsequently pulled off of true by tensioning lines. In practice in the ‘real world’, the couple of centimetres it might have moved might not be crucial, however if you are taking a test you should regularly check the frame hasn’t moved. It is important that candidates remember that it is a test and they are being marked against a conceptual ideal. The end is a major part of the test carrying over 25% of the marks. Only a perfect end can gain perfect marks, sloping ends will result in carelessly dropped marks, which many can ill afford.

To the end itself, at its simplest it comprises alternating pairs of runners (i.e. along the wall) and a tie (throughstone), the runners essentially provide the unsupported, vertical end with stability, whilst the ties stop the “traced” (i.e. stone set with long axis along rather than into and hence potentially unstable) ties becoming displaced.



Pairing runners is key to ensure that the tie is close to perfectly level, without this the tie will slope and have a tendency to shed a subsequent runner. A common mistake where the runners do not quite match is to use a very thin stone to make up the level, generally regarded as poor practice (although there are a number of technical arguments as to why this might not always be the case since as long as the stone is firmly held it will only be a weakness if it cracks or less likely is crushed). Consequently you should consider using 2 medium rather than one thick and one very thin.

This brings us to a major consideration with ends, which is the role of grading stone. As with a wall stone thickness/size would ideally diminish however you should not become shackled by this concept with ends where structural integrity is the key.

“*Dry Stone Walling*” mentions the use of slates as in this end in Cumbria (LEFT). There is always the potential of cracking but they do tie the runners together and theoretically they are less likely to crack across the wall (where they are generally sitting just on the two runners and possibly another, whereas as runners they are likely to sit on more stones potentially creating more points of contact and missed contact and thus more potential for cracking).

Tie stones have to be a given length for any point in the end, runners can theoretically be any length regardless of position, hence tie stones' length IS key, and more important than their thickness. In this respect it is also the case that thin stones can be trimmed to the correct length, whilst many larger stones either cannot be dressed or are more likely to crack during the dressing process or weakened so that they do so at a later date.

So whilst grading is important it is probably more important that the stones are correctly used to perform a function. If its length is right use it even if it is thin unless it is very thin or very near the bottom where cracking is more likely. Linked to this is the use of long runners higher up regardless of thickness to tie the upper, and hence less stable, part of the end into the body of the wall, as noted in "*Dry Stone Walling*". This should be born in mind with distribution of runners. If you only have a couple of decent ones wherever possible distribute them evenly up the height. It is tempting to use all your good stones and then scratch around to finish the end as can be seen to be the case in the examination piece, right. Only two good runners are visible and they have both been used before the wall is even half way up.

The lower of the two runners is also well off level a problem that should be avoidable with flatter stone in this instance old red sandstone. There is a clear weakness here as there is an obvious pressure point below, where it bridges the gap between the tie and building stones. Sloping is cannot always be avoided, especially with less regular stone, bottom right. Built of very hard almost unworkable granite the lower tie stone had a lump, whilst there is good contact between ties and runners there is still a potential pressure point as in the thinner sandstone wall. The size and nature of the rock in this instance means it is not really a serious concern, and the top is level enough that it is not a concern with regard to shedding the tie.



The wall left, also sandstone, but a little more regular, shows another common error. Ties have been placed and then long stones used to level with them (a misconception we shall look at in more detail next time). Whilst looks can be deceptive it would appear that many of the building stones would make better runners than those used. Having seen the wall under construction this was indeed the case.

In this instance there was a severe lack of suitable ties and as with the previous sandstone wall which also lacked many runners, illustrates another problem common in many parts, especially the Cotswolds and South West - the lack of decent ties and/or runners. "*Dry Stone Walling*" notes the problems of employing 'broken ties' and the creation of 'L-shaped' ends we'll take a look at these next time.

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