Clawdd Cuckoo Land

Sean Adcock. Photos © the author unless stated

For a couple of years I'd been trying to convince anyone in North America who'd listen that a clawdd construction course would be a good idea. It's not that they have miles of them to repair, I've yet to find or receive any evidence that they ever made it there despite their walling heritage being inextricably inter-twined with migration from the British Isles. Across the pond they are however really into garden walls and artistic projects; I've always felt a nice "book-ended" coursed clawdd would be a useful weapon in their stone armoury.

Perhaps just to shut me up, last May my good friend John Shaw-Rimmington (President of Dry Stone Walls Across Canada), having already invited me to attend his annual walling festival held during the Canadian Thanksgiving weekend, sent a photo of some stone and asked if it would be suitable for a Clawdd. I wondered for a moment if he'd been visiting North Wales behind my back.


Photo courtesy John Shaw-Rimmington

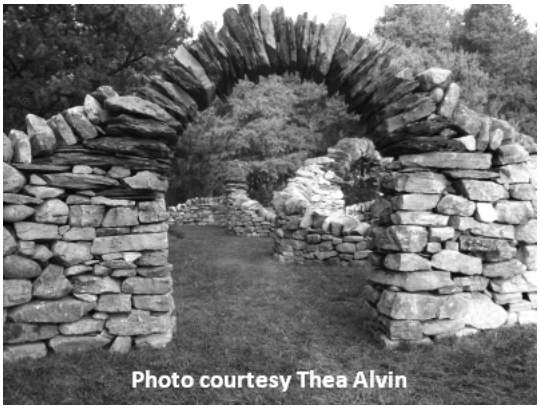
Come October I found myself in St.Marthe, nr Hudson Quebec, about half an hour west of Montreal - for the first time the festival was held outside of Ontario. Our host was Chris Overing, who in 2001 began building a wall on his parents property . Initially it was planned to be an eight week project...he's still going, his efforts the subject of a documentary "Triumph of the wall" a trailer for which you can see at www.youtube.com/watch?v=vyjCLCHlMzE

On site I was banished to the woods, probably because I'd complained so much about the live music (I use the term loosely, ;-)) the year before, a distance from the main activity which was the construction of a large double arch dry stone bridge (or a photo see Patrick McAfee's, bridges article on p.20). This was being supervised by John alongside Patrick McAfee from Dublin, and a cast of what seemed thousands but was probably a dozen or so were building a bridge. John has done a few hundred dry stone bridges over the years, this was his first attempt at a double.

Completed bridge with training walls either side in background

At one end of the bridge Norman Haddow (Perthshire) along with Shona McLeod (Skye) were teaching (running a workshop as they call it in strange lands) walling complete with cedar throughs. I'd heard that these colonials had some funny habits.

Thea Alvin (Vermont) had obviously done something very wrong as she was further away along the track than me. Thea's work is not always for the walling purist, rarely does it stick to all the rules. It is always striking and the meandering (a variation on her 'signature' straight helix's - more on which will be in a future issue), triple arched helix was certainly that. What's more *Thea used* 50 Tonnes of material in 3 days. There were several helpers over the weekend, but primarily it was Thea and her partner Michael who completed the work. Thea says "also onsite was Eric Landman, and Brett McBirnie, and Karl Kaufmann, each of these guys should be noted as they had a contribution to the whole, particularly in laughter."



Andre Lemieux

I've noticed that for some reason I'm not as popular as Thea. I had two full time assistants, Akira Inman – who I knew from my Californian escapades and last years 'Rocktoberfest' and Andre Lemieux. Several others (Danny Woodward, Matt Jones, Dan Pearl) joined in for a day or two (and briefly Evan Oxland – but we managed anyway). Somehow the clawdd didn't have the allure of the bridge and frankly I don't think people really grasped what was going on, or what a clawdd actually was, let alone how impressive the end result could be. Key to our endeavours were Jason from the Overing Estate who was on hand as our willing go-fer throughout, and the several piles of stone (probably more than 1000 tons – but of course being wallers we will insist the really good ones were all buried out of reach, so we had to make do anyway) that we had to choose from.

If you want to know more about the standard methods and structure of a 'book-ended' or 'pitched', coursed clawdd you should of course read the North Wales Branch's recently published "Clawdd Construction" either as a .pdf on the Welsh branches website (www.dswales.org.uk) or by sending a couple of pounds to the branch for p&p for a printed version. This however was no ordinary clawdd.

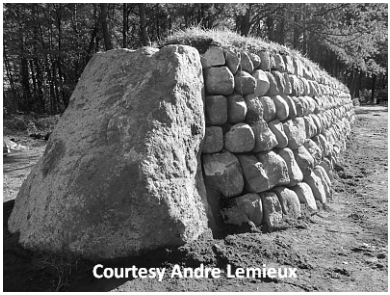
There could be several reasons why there is a(n apparent) lack of cloddiau in Canada, not least the climate. Whilst it can be dry and hot in summer it gets a tad cold in winter. At St.Marthe for example it regularly reaches -15℃ and frequently less. In Britain stone faced earth banks in general have a marked westerly (even coastal) distribution, not entirely due to the weather but it could be an influence. If you want anything to grow in them you need moisture. They can dry out and one reason for their typically wide top is likely to be to help rain catchment. Of more concern in Canada is the frost and the potential for frost heave.

Typically Canadians sit their walls on a very deep bed of gravel so that there is no soil to freeze (usually to a depth of a couple of feet) below the wall. We didn't do this with our clawdd, I have concerns that unless properly engineered particularly with regard to drainage such footings risk acting as a sump for water increasing the potential problems in terms of softening the subsoil and, of course, freezing. Anyway we were going to be filling our structure with soil so vertical frost heave was likely to be the least of our problems, there is a real risk that horizontal heave will push stones out.

Second rough layer built behind face stones to strengthen the clawdd

As far as the footings were concerned the soil was very sandy (so free draining and maybe less prone to freezing – who knows) and we flat laid the stones in a trench around a foot deep. I'm hoping this is sufficient to minimise any potential damage due to heave and/or freeze/thaw. Moving further up the clawdd, to reduce the possibility of stones being pushed out, for the first four courses we formed a second rough skin behind the face. I did come across this many years ago in a 'real', 'live' clawdd when instructing on a training course near Cemlyn on Anglesey, although it was much smaller stone. The core between the skins was formed and compacted as normal. A small amount of soil was ramped on the inner skins (essentially as per normal practice) in order to facilitate the stabilisation of the building stones on the next course. Having two skins of reasonably substantial stone dramatically decreases the size of the core. Here there was basically more stone than soil. This should have the effect of at least partially insulating the soil, ameliorating freezing. I'm also hoping that it will mean that the volume of stone is sufficient that the reduced volume of freezing soil can do little to disturb it. It also occurred to me that it might act like a powder/explosives store. That is very thick walls and a thin roof so any explosion (in this case freezing) forces out the top rather than side. My knowledge of the physics and mechanics of frozen soil is almost completely non-existent, so this is based on blind optimism more than anything else.

This method could be a double edged sword. Reducing the soil is likely to have implications on anything growing. I would have thought it means that there is less potential for moisture retention. In order that at least the turf top could establish I decided against continuing the method to the top, and so the top two courses remained single skin. If cloddiau are to have any potential in such climes as planters/flower beds then the space/soil for planting would be essential. The double skin method also means that here is less soil near the face and around the bases of the face stones, with far less soil filling the nooks and crannies in which grass normally establishes. This caused me some concerns as the binding effect of grass (it is one of the important reasons for bookending stones as this helps plant growth by facilitating root penetration compared to flat laying), is very important in stabilising clawdd stonework.


Courtesy Andre Lemieux

It will be interesting to see if the top courses do suffer compared to the doubled courses. In terms of this clawdd being an experiment, being able to see how a more standard structure reacts is also important. When we built the millennium clawdd at the National Stone Centre in Wirksworth, Derbyshire, everyone said it would suffer as a result of the severe frosts they have. Whilst the Millenium Clawdd has suffered some damage at one (curved) end this is probably due more to vandalism than the climate. It would seem (well built) Cloddiau can resist amongst the severest frosts England can offer, although Canada is likely to be a sterner test. Curved ends are the weakest aspect of a clawdd for a number of reasons – for example the stones cannot be wedged as they can on a straight length as they are popped out by the forces; good length clawdd stone tends not to lend itself to going around a curve. For this reason we used the other common method of setting large boulders at either end of our clawdd and just partially curving the clawdd to blend into these. Fortunately the estate is awash with stone of all shapes and sizes... and machinery.

Even stuck out on a limb we did have passersby . these would have previously seen the workshop walls and so, perhaps not surprisingly, the most common query we had was, "why are you putting soil in the middle". I eventually developed a stock reply... "Wrong question... why are we putting stone on the outside". I have in the past been challenged that as I champion cloddiau and as its alright for them, what's wrong with putting soil in the middle of a dry stone wall. Such questions are related. It is important to remember that a clawdd is not a wall with soil in the middle, it is an earth bank protected from erosion (by stock and the elements) by a stone skin. At first glance this might seem a little pedantic, but it is an essential difference. Forming a Clawdd's solid core is as, arguably more, important than the stonework. The structure is geared toward this – there is plenty of space to form (mostly through compaction) a cohesive earth centre. In a dry stone wall you are unlikely to form such a centre, even flat laid cloddiau and Cornish hedges tend to


Courtesy John Shaw-Rimmington

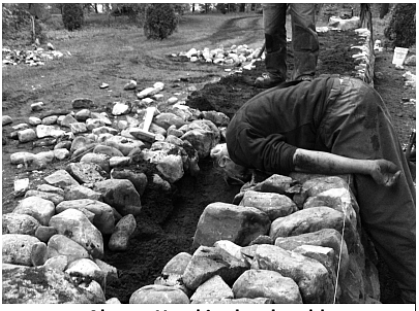
likely to dry out, reducing the binding. On top of that is the way stones are laid/set including the batter. They are very different structures and different rules apply. It's not quite the same as trying to compare chalk with cheese, but hopefully you get the idea.

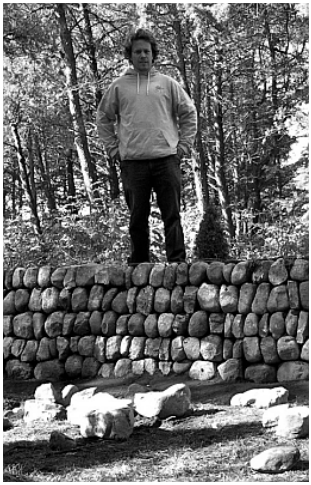
L to R: Jason, Dan, Sean, Andre, Akira

Will the St.Marthe clawdd survive? I wish I knew, I am wracked with doubt, but less than I had when we started. The location amongst trees and the nature of the soil should be in the clawdd's favour vis a vis the climate. Anyway this was an experiment, we were frequently told it wouldn't survive, but that is defeatist at best, and if you never try you'll never really know. So i shouldn't worry, but of course I do. It would probably be an advantage to build cloddiau in cold climates in the spring rather than the autumn to give vegetation between the stones a chance to establish. I did discuss this aspect with Chris and reflected that it might have been a good idea to incorporate grass seed in the soil 'ramp'. So even if this one fails I have plans for the Mark II! It also occurred to me that some people have made an international career and reputation based on ephemeral features which they photograph in the name of art. Oh dear what is Canada doing to me, first arches and now this, and me good, honest farm waller.

Having considered my ruminations, Chris, shortly after the event, 'attacked ' the clawdd with some a Winter Rye; a crop that they normally sow in the Autumn for soil-retention, then plough under in the spring for nutrients. Chris explained that *"the advantages of this plant include its beneficial effects upon soil tilth, its cold hardiness, and its fibrous roots, and I hope that it will help to secure the structure of the clawdd."* After two weeks the results were a little startling. Chris says *"It will require some trimming next season, in the meantime, however, I am enjoying watching the clawdd transform into a giant Welsh "chia-pet"!"*. This is a perennial problem with garden cloddiau as the lack of grazing means the stonework frequently becomes obscured, and at least one of my customers chemically weeds theirs. The grass is probably not as crucial to the clawdd's survival in a garden as if it were subject to stock pressure, but ultimately I can't help feel this detracts from their nature in some way.

All the hypothesising apart there is of course no substitute in terms of structure for good clawdd stones (i.e. long with two more or less parallel sides) and careful building and wedging. I'd like to think we achieved both of these.





Above: Head in the clawdd.
Right: hey you get off of my clawdd
Both courtesy of John Shaw-Rimmington

On reflection the most difficult aspect of the teaching (and an abject failure) was getting them to pronounce clawdd, essentially approximating Clow-th: as in clown and them, rather than the North American insistence on 'cloud'.

Was the whole idea of a clawdd in Canada mad, did I have my head in the clawdd, do I need to get Cirrus. Thanks to JSR for that, and the parting photo...hey you get off of my clawdd... might I add by the hopefully not rolling stones. As we go to press the clawdd is nicely swaddled in snow (see back cover)...

Clawdd cuckoo land indeed .

St.Marthe Clawdd (see pp.23-6) as we go to press, courtesy Chris Overing