



SNECKED STONEMASONRY

by Bobby Watt



This method of bonding stonework is so prevalent in Scotland and Ireland it has been referred to in some journals as 'Celtic Bond'. Amongst the French speakers in Canada it is known as '*travail ecossais*'.

Whatever it's called, this is a method of building an incredibly strong masonry wall with differently sized, (and even very loosely squared), stones, in either ashlar or rubble work, with a pattern that is both handsome and, at the higher levels of workmanship, artistic.

The principal characteristic of snecked work is the keying together of parallel courses of stone. This is achieved by interrupting the level height of a horizontal course by placing a taller stone that reaches up into the next course. This vertical interlacing gives a wall a tensile strength that enhances its compressive strength.

When I served my apprenticeship we were never provided with a set of instructions to build snecked work; it was picked up directly on the job. When I started teaching stonemasonry to brick and blocklayers at Durham College in Ontario, I learned the value of putting the basic tenets on paper for the students to take with them.

SNECKED MASONRY involves three kinds of stones:

RISERS—Or **JUMPERS**, these are the stones extend up through the horizontal beds. They can be square, or almost square, or up to three times as long as they are high.

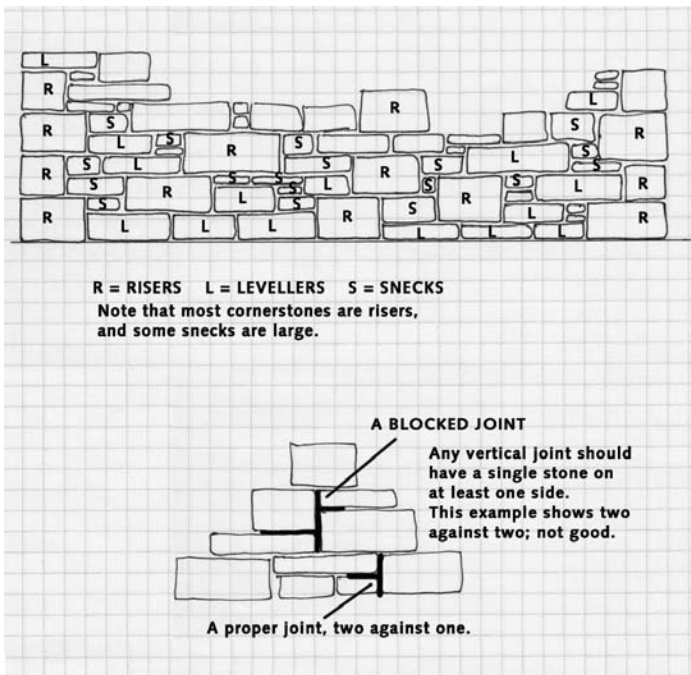
LEVELLERS—These form the bulk of the wall. They are usually at least twice as long and up to five times as long as they are high.

SNECKS—These are the smaller pieces that enable the mason to make up the differential in height between the top surfaces of the levelers and the risers.

The easiest way to build snecked masonry is to work with uniform material such as that provided by free-stone suppliers, like Indiana Limestone, who saw the stone into standard bed heights that enable us to conveniently build snecked work with a minimum of bother. The visible faces of such stones are usually pitched. *But beware; some suppliers, either ignorant or unprincipled, provide stone in this category that is face-bedded, that is to say with the bedding plane of the stone running vertical, parallel to the surface plane of the wall. For shame! This stone will, in time, defoliate.*

THE TEN COMMANDMENTS

1. Always lay sedimentary stones on their natural bed.
2. No stone should be higher than it is long (Fat Tony), except at corners.
3. Avoid blocked or running joints. There must be only one stone on at least one side of any vertical joint.
4. Avoid setting any more than three stones against a riser.
5. Risers should be evenly distributed throughout the body of the wall and the grouping together of like-sized stones is to be avoided.
6. Avoid the 'stepping' effect of levelers of the same bed height and same approximate length set on top of each other.
7. Avoid lining up the vertical joints in alternate courses. This gives the wall too much regularity and detracts from the over-all appearance. Slightly offsetting the vertical joints imparts liveliness.
8. Generally, risers should never touch except at corners and openings. (Jambs)
9. Don't allow horizontal joints to run more than four or five feet (1.5m). And, if possible, break up the horizontals on short stretches between windows or doors.
10. Try to provide a substantial bonding lap. A minimum of a quarter, ideally a third, of the length of a stone being set should cross the joint between the two stones below it.



In the simplest type of snecked work:

The height of a leveler is equal to the heights of two snecks plus the thickness of a joint.

The height of a riser equals the heights of a leveler and a sneck plus the thickness of a joint.

To set out the work, you need to first cut some corners (quoins) and build the wall ends, or 'plumbings'. The cornerstones should be risers. (Just as an aside, anyone who thinks that a stone wall, any stone wall, can be built starting in the middle without building corners does not deserve to be called a stonemason.)

Here is a good place to introduce an important masonry term, 'arris'. An arris is the angle at which two planes meet. The corner of a building, right angle or not, is an arris. The arrises of a single stone are the corners where the plane of the visible vertical face of a stone meets the planes, horizontal, vertical (or diagonal) that will be hidden within the masonry of the wall. Each rectangular stone thus has four arrises on its visible face. All of the arrises of a single stone should exist on the same vertical plane. If not the stone must be taken "out of twist." *All of the arrises of all of the stones in the wall should exist on its vertical plane* (although the faces may protrude).

To assure this, building lines should be stretched between the corners (plumbings.) If the wall is very long, it may be necessary to build an additional plumbing, (sometimes called a tailing), in the middle of the span to support the building lines or ranging lines.

In snecked work, with so many different levels of work going on, it is useful to set a line set higher than the levels at which you are working. This is called a ranging line and sighting down from it along the arrises of the stone being set and the arris of the stones already in the wall keeps your wall straight and plumb—or straight and battered, as the case may be. The building line is used when you are trying to attain a constant level line, such as the top of the wall, or setting up for window sills or band courses.)

There is an alternative to the lines when building a stone veneer against a backing wall. If the back up material is plumb and straight, measure from it to the arris of the stone being set to ensure continuity. Each stone still has to be individually leveled. Using a four foot level along the wall helps you keep all of the high points level.

It is very important to be thinking three or four stones ahead of yourself to avoid making mistakes in the wall. If you do make a mistake, hopefully you will realize it and if you realize it, hopefully you will be responsible enough to take the wall back down and fix it. It is either right or it is wrong. If it's wrong you have no right to be calling yourself a stonemason!

Avoid blocked joints—two or more stones on BOTH sides of a vertical joint. And especially avoid running joints—multiple stones on BOTH sides of a vertical joint.

Once you have mastered the idea of this bonding method, it can be used with every kind of stone available. Even irregular material—split and roughly squared granite boulders or field stone. Be aware that the rougher the stone, the more difficult it is to stick to the rules.

It can be very helpful to draw the bond when you are getting ready to start your first few projects. It is also fun!

When using any sedimentary stone that does not have sawn beds, every possible size and shape will be encountered, it is very challenging to get it right but the results can be remarkable. The best rule for this type of work is to always make sure that when you set your levelers against your risers that there is enough height left for a reasonably sized sneck.

GOOD LUCK AND HAPPY BUILDING!

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