CANTILEVER

A REVIEW OF STRUCTURE, CRAFT AND REPAIR

No. 14 — Autumn

THE LONG FIELD

Eighteen years, nine hundred metres, and one wall that refuses to be finished

Lime, patience, and the quiet return of soft mortar

Vasterud: what a coastal repair yard knows about weather

PLUS — THE TOOL THAT REFUSES TO BE IMPROVED

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CONTENTS

No. 14 · Autumn · Sablon & Reeve

FEATURES

The Long Field 4

Ines Abarca walks nine hundred metres of rebuilt drystone with the woman who has been at it since 2008.

A Note on Lime Mortar 9

Marguerite Oyelaran on why the softest binder in the yard turned out to be the strongest argument.

Vasterud, in Six Frames 10

Piotr Salzmann photographs a coastal repair yard through one week of bad weather.



Long Field, October.



Vasterud slipway.

DEPARTMENTS

The Repair Ledger 13

Six sites, twelve years, and what the numbers actually say about cost per metre.

Notes & Queries 15

Short reports from the workshops, plus a correction we are not proud of.

The Tool That Refuses 15

In praise of an implement that has survived every attempt to improve it.



Rope store, Vasterud.

Cover photograph by Tobias Renn, made at the Long Field in October.

CANTILEVER

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FROM THE EDITOR

In defence of slow work

Somewhere between the second and third year of a long repair, the photographs stop being interesting. The scaffolding is up, the weather is ordinary, and nothing that happens in a given week is large enough to notice. This is the part of the work that magazines like ours are bad at showing, and it is also the part where almost everything is decided.

We have built this issue around that middle stretch. Ines Abarca spent four days at the Long Field, which is not a field and has not been long for a century, watching a wall go up at the rate of about two metres a day. Her piece begins on page four. It is not a story about heroism. It is a story about a person who has learned to want the same thing every morning for eighteen years.

Marguerite Oyelaran's note on lime, on page nine, arrives at a similar place by a different road. The argument for soft mortar is not that it is traditional. It is that it fails in a way you can live with, and that a binder which gives up before the stone does is a binder that has understood its job.

Piotr Salzmann's photographs from Vasterud were made in a week of weather so consistently poor that the yard foreman apologised for it twice a day. They are the better for it. You can see the six frames beginning on page ten.

Elsewhere: the repair ledger, which we have been assembling for three years and which finally has enough rows to be worth printing; a short correction on the matter of the Denby lintel, which we got wrong in Issue 12 and which several of you told us about with admirable restraint; and a small appreciation of a tool that has outlasted four generations of improvement.

As always, we would rather hear that we are wrong than hear nothing at all.

Dana Vreeland

EDITOR



Dana Vreeland at the Ordell Press.

CANTILEVER is published four times a year by Sablon & Reeve, 41 Wickner Row. Printed by The Ordell Press on uncoated stock. Text set in Georgia; display and captions in Trebuchet. All photographs are reproduced by arrangement. No part of this publication is real.

FIELDWORK

The Long Field

Eighteen years ago Rosalind Kerrow began rebuilding a boundary that had been falling down for a century. She is about two thirds of the way along. Ines Abarca spent four days watching the slowest kind of progress there is.



Rosalind Kerrow at the gully section, October. Photograph by Tobias Renn.

Words by Ines Abarca · Photographs by Tobias Renn

The wall starts at a gatepost and disappears over a rise, and from the gatepost you cannot see where it ends. That is the first thing Rosalind Kerrow tells visitors, usually while she is still sorting stone, and she tells it in a tone that suggests she has decided not to find it discouraging. The boundary runs nine hundred and forty metres, give or take the parts that have moved. She has rebuilt six hundred and twenty of them. She started in the spring of 2008 with a crowbar, a borrowed trailer, and what she now describes as an unhelpful amount of confidence.

A drystone wall is a structure with no glue in it. This is stated so often that it has stopped meaning anything, so it is worth saying the consequence instead: every stone in the wall is held by the weight of the stones above it and the friction of the stones beside it, and if you get the geometry wrong the wall does not crack, it leans, and if you get it very wrong it leans for eleven years and then goes over in a single wet February.

Kerrow's boundary went over in a single wet February. Not all at once — that would have been simpler. It went in sections, over about a decade, in the way that a badly built wall unbuilds itself: the coping stones slid, the through-stones lost their bearing, the hearting worked its way out through the face, and the two skins of the wall stopped leaning on each other and started leaning apart. By the time she bought the land, the boundary was less a wall than a long low ridge of stone with grass growing through it.

"People think the hard part is lifting," she says. "The hard part is deciding. You pick up a stone and you have about four seconds to know where it goes, and if you take longer than that you will put it somewhere it nearly fits, and a wall made of nearly is a wall that comes down."

The method she uses is not hers and she is careful to say so. The wall is built in two skins, each leaning very slightly inward, with the gap between them packed tight with small stone called hearting. Every metre or so a through-stone crosses the full width, tying the skins together. At the top, a row of copes stands on edge and presses the whole assembly down. It is the same arrangement that holds up the field boundaries of half a dozen countries, and it works because it converts the one force the structure has — gravity — into the one thing it needs, which is friction.

What is hers is the pace. Two metres a day is a figure she arrived at in the third year, after two seasons of trying to do four and spending the winters taking down what she had rushed. Two metres a day, five days a week, seven months a



Hearting: small angular stone, packed by hand, never poured.

year, minus weather, comes to somewhere between two hundred and two hundred and sixty metres a season if nothing goes wrong. Something always goes wrong.

The stone is the original stone. This matters more than it sounds. When the boundary fell it fell onto its own line, which means that almost everything she needs is lying within a metre of where it has to go back. She has bought in stone twice in eighteen years, both times after a section had been robbed for a barn. She can tell the bought stone at forty paces and says it still annoys her.

There is a long argument in the repair trades about whether this kind of work is conservation or reconstruction, and Kerrow has no patience for it. "It's a wall," she says. "It was a wall. It will be a wall." She keeps a notebook of what she calls the difficult metres — the places where the ground is wet, or the line crosses a stream, or the original builder did something she cannot account for and she has had to choose between copying it and correcting it. The notebook runs to about sixty entries. She has copied more often than she has corrected.

The section she was building the week I visited crosses a shallow gully, and the gully is the reason the section fell first and fell worst. Water moving under a wall takes the fines out of the foundation and the wall follows the fines. The original builder had dealt with this by laying a run of large flat stones as a raft, which worked for perhaps eighty years and then did not. Kerrow has dealt with it by lifting the raft, digging down another four hundred millimetres, putting in a bed of clean angular stone that water can move through without carrying anything away, and putting the raft back on top of it.

"That's a correction," she says. "He'd have done the same if he'd had a digger and a bad back."

By Thursday afternoon the gully section was up to eight courses and looked, to my eye, finished. Kerrow pointed out that the coping was not on, that a wall without its copes is a wall that has not yet been asked to do anything, and that the real test was February. She said this without drama. In eighteen years she has had three





Two skins, each battered inward by about one part in six, so that each leans on the other and neither can fall alone.

sections go back down, all of them in the first six years, and she talks about them the way a surgeon talks about the operations that taught her something.

Nell Ordway has been coming to the Long Field on Fridays for three years. She is twenty-six, she works the rest of the week in a builders' merchant, and she arrived after writing a letter that Kerrow describes as the only piece of correspondence she has ever answered on the day it came. The letter asked whether there was any way to learn this that did not involve a course. There was not, Kerrow wrote back, but there was a wall.

Watching the two of them work is an education in what the trade calls the eye. Kerrow does not sort stone into piles; she sorts it into the wall. A stone comes off the ground and goes up, and the decision about where it goes was made while she was still bending. Ordway sorts into piles, because she has to, and the piles are her way of buying the four seconds. Over three years the piles have got smaller.

"You can teach the rules in a morning," Kerrow says. "Length into the wall, not along it. Never a running joint. Fill as you go. Every stone touching three others. The rules take a morning and the eye takes ten years, and nobody has ever found a way of shortening the second part."

The economics are worse than the romance suggests. Kerrow costed the boundary once, in 2013, at what a contractor would have charged: something over ninety thousand pounds at the rates then current, for a structure whose only function is to stop sheep going from one side of it to the other. Wire would do that for four thousand. She has never repeated the exercise and does not recommend it to anyone else.

What the wall does that wire does not is last. A drystone boundary that is properly built and occasionally attended to will stand for a hundred and fifty years, and at the end of that time it can be taken down and rebuilt out of itself, with no waste and no delivery. The wire fence will have been

How a dry wall stands

Two skins, each battered inward by about one part in six, so that each leans on the other.

Hearting: small angular stone packed by hand into the cavity, never poured, never rounded.

Through-stones every metre, crossing the full width, tying the two skins into one body.

Copes set on edge along the top, their weight pressing the courses down into friction.

A foundation course set below the line of frost, on ground that drains rather than holds.

Nothing in the assembly is fixed. Everything in it is arranged so that it cannot move far.

Adapted from the Long Field notebook, with permission.



replaced five times and every one of those replacements will have arrived on a lorry.

There was a disagreement, in 2016, with the conservation officer for the valley, about a stretch where the original builder had used a course of vertical stones — soldiers, in the trade — for about eleven metres. Nobody knows why. The officer's position was that the soldiers were a documented local feature and should be reinstated. Kerrow's position was that the soldiers were the reason that stretch had fallen down twice and that the builder had probably been in a hurry. They compromised: five metres of soldiers, reinstated, with a note in the file.

"He was right that it's evidence," she says. "I was right that it's rubbish. Both of those can be true."

Winter is for the things that cannot be done in the season. She sorts the stone that has come out of the ground where the line crosses the top field. She reworks the tool handles. Twice she has spent January rebuilding a section of her own early work, quietly, without telling anyone, and both times she has said afterwards that the second attempt was not as much better as she had hoped.

I asked what happens when she gets to the end. The question landed badly. She looked along the

Continued on page 12



The top field, where the line crosses wet ground and the builder before her laid a raft of flat stone.

A wall made of nearly is a wall that comes down.

MATERIALS

A Note on Lime Mortar

The softest binder in the yard turned out to be the strongest argument. Marguerite Oyelaran on a material that works by giving way.

By Marguerite Oyelaran



Repointing at Ordell Bank: a soft mortar, struck flush and left proud of nothing.

For about seventy years the repair trades were confident that the answer to a failing joint was a harder filling. It was a reasonable confidence. Cement is strong, it is cheap, it sets in weather that would defeat anything else, and it does not require the person applying it to have any particular opinion about the wall.

The trouble is that a joint is not a gap. A joint is the part of a masonry wall that is designed to fail. Stone moves — thermally, seasonally, and in response to whatever the ground underneath it is doing — and in a well-built wall the movement is taken up by the mortar, which crushes a little, cracks a little, and is replaced every century or so by somebody with a hawk and a bucket.

Fill that joint with something harder than the stone and the arrangement inverts. The mortar stops moving and the stone starts. Water that used to leave through the joint now leaves through the face of the block, carrying salts with it, and the face spalls away in sheets. You can walk down almost any street repointed in the 1970s and read the result: sound grey ribbons of cement standing slightly proud, with the stone between them eaten back by five or six millimetres.

Lime fails better. A non-

Continued on page 14

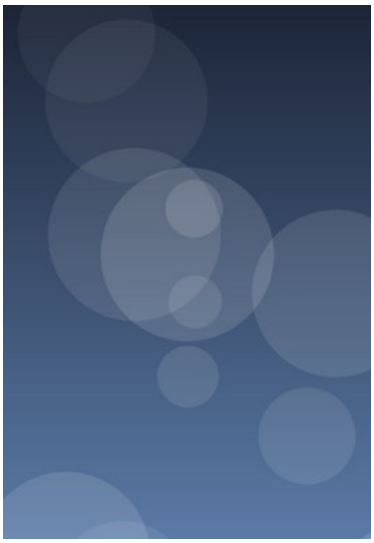
PHOTO ESSAY

Vasterud, in Six Frames

A coastal repair yard, photographed across one week of weather that never improved. By Piotr Salzmann.



Monday, 06:40. The slipway before the first lift. The tide has been out for two hours and the yard is deciding what it can get done.



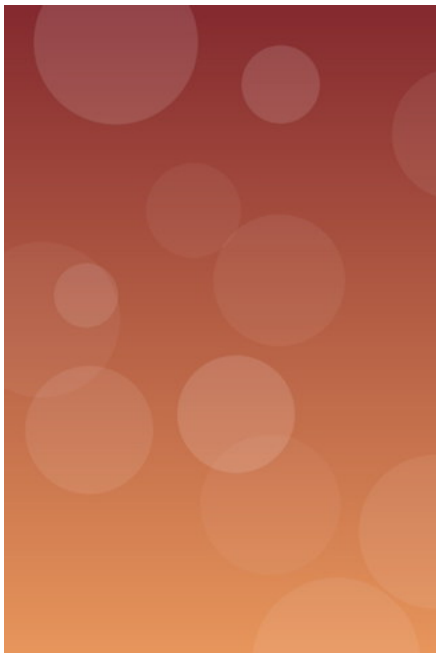
Monday, 14:15. Rope store. Nothing here is newer than the building, and the building is not new.



Tuesday. The long shed, from the gantry. Three hulls, two of them older than the yard's records.



Wednesday. Weather. The foreman apologised for this twice a day, every day, for a week.



Thursday, first light. The frame of a stern that will be replaced entirely, drawn in chalk on the floor.



Friday. The same slipway, the same tide, four days of work in between.

Photographs made on location at Vasterud, October. Reproduced by arrangement.

Continued from page 8

THE LONG FIELD

line for a while, at the six hundred and twenty metres behind her and the three hundred and twenty in front, and said that the first two hundred were built by someone who did not yet know what she was doing, and that she had been putting off going back to them for about eleven years.

"There's no end," she said. "There's just the bit you're on."

The Long Field lies in the Cavel valley and is not open to visitors. Rosalind Kerrow works Monday to Friday, weather permitting, and will talk to anyone who turns up with gloves. Nell Ordway comes on Fridays.





The notebook of difficult metres, kept since 2008.



Six hundred and twenty metres, looking back toward the gatepost.



The gully section, eight courses up and still without its copes.

THE NUMBERS

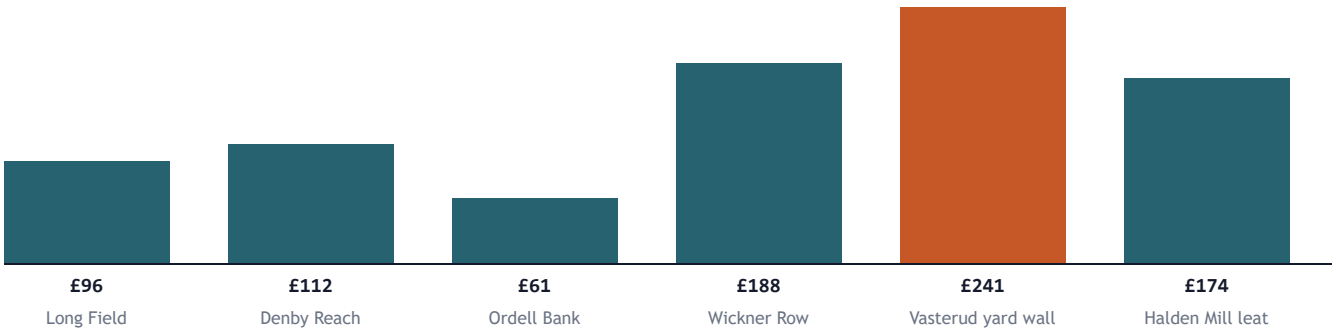
The Repair Ledger

Six sites, twelve years of records, and what the cost per metre actually buys.

SITE AND PERIOD		WORK AND CONDITION			
SITE	PERIOD	METHOD	METRES	PER METRE	CONDITION
Long Field, Cavel	2008–	Drystone, rebuilt in situ	620	£96	Good
Denby Reach	2011–2014	Drystone, part rebuilt	180	£112	Fair
Ordell Bank	2014–2016	Lime repointing	240	£61	Good
Wickner Row	2016–2018	Lime repointing, partial rebuild	95	£188	Good
Vasterud yard wall	2019–2021	Mixed, marine exposure	150	£241	Fair
Halden Mill leat	2021–2023	Drystone, rebuilt on new raft	210	£174	Too early

Costs are in the year of the work and are not adjusted. Condition is assessed on the Sablon scale at the most recent inspection. "Too early" means fewer than three winters.

COST PER METRE, BY SITE



Continued from page 9

A NOTE ON LIME MORTAR

hydraulic lime mortar is weaker than almost any stone it will ever meet, it stays slightly flexible for years, and it will take up movement rather than transmit it. It also lets water out. The technical term for this is vapour permeability; the practical term is that the wall dries.

None of this is new, and the revival of lime is now old enough to have produced its own orthodoxies. The most tiresome of them is the idea that lime is correct because it is traditional. It is not correct because it is traditional. It is correct because it is soft, and because in a structure with no glue in

the binder should always be the first thing to give up.

M. Oyelaran



Lime putty, slaked and left under water for a year before it is worth anything.

DEPARTMENTS

Notes & Queries

The Denby lintel

We described the Denby lintel as a single dressed stone. It is two, with a concealed joint at the centre, and at least nine of you wrote to say so. The error was ours and the correction is theirs.

Soft copes

A reader asks whether copes can be laid flat. They can, and they will hold for about a generation, after which the wall will have no way of pressing itself down. Lay them on edge.

The tool that refuses

An appreciation of the walling hammer, which has survived four generations of improvement by being exactly heavy enough and no heavier, appears opposite.

Rope store

Several readers have asked where the Vasterud rope store photograph was made. In the rope store.

Next issue

A long piece on the leat at Halden Mill, where the repair has outlived two of the people who specified it, and a note on the economics of scaffolding.



The walling hammer, which has outlasted four generations of improvement.

Letters to the editor may be sent to 41 Wickner Row, or left with anyone who looks as though they are working.



LAST WORD

February

Every wall in this issue is waiting for the same examination, and it will be set by weather in a month when nobody is watching. Frost gets into the hearting, the ground swells, the copes shift a few millimetres, and by March the structure has either accepted the new arrangement or it has not.

Rosalind Kerrow does not go out to look until the thaw is complete. She says there is no point: a wall that is going to move will move whether or not she is standing next to it, and a wall that has moved will still be there in April. This seems to us to be the only sensible attitude available to anyone who builds things that outlast their attention.

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