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# Wild terroir

Using wild yeasts to create beers with a sense of place

BY ANTHONY GLADMAN

**The beer world has been talking about terroir for decades but in all this time, no one has arrived at a solid definition, and yet there's clearly something there. Terroir will always encompass raw materials, but often it seems the fermentation character of a beer is overlooked in such discussions. There is one group of brewers though for whom its impact is inescapable: those who use wild yeasts and spontaneous fermentation to create beers with a sense of place.**

**T**erroir, that elusive sense of place, is similar to - yet distinct from - provenance. It can be thought of as how a beer expresses its origins, but with so many raw ingredients involved and so many processing steps between raw ingredient and finished product, those origins can be hard to pin down. Many brewers will use a local maltster, for ex-

ample. But does that maltster use only locally grown barley? Probably not.

Brewers who make spontaneously-fermented beers have got to be a little bit crazy, don't you think? It doesn't make any sense on paper. All that time and money invested up front, and it's only a year or more down the line that you find out whether you're actually

doing it right, whether the beer you've made tastes any good.

Before the advent of modern brewing, spontaneously-fermented beer was the norm. Scientific and technological advances have seen brewing around the world move away from these wild roots – generally to everyone's benefit – but still a few producers remain wedded to the old ways.

In Belgium, producers of lambics and gueuzes kept ploughing their furrow while the rest of the world drowned in mass produced lagers, or more recently enjoyed the proliferation of IPAs and pale ales, pastry stouts and kettle sours. Among all this brewing, wild beer remains a peak to be climbed and now more brewers are becoming interested in striking out from base camp.

## Caught up in the romance

Maybe crazy is too unkind a word. A better way to look at the people choosing this life is that they're romantic. There's no

need to make beer this way anymore but people still do it because they love it.

All the brewers I interviewed for this article share the same experience: at some point a spark of inspiration alighted in their minds like a yeast spore landing on wort in a coolship. The notion that they too could produce spontaneous beers began to ferment inside them, growing stronger day by day, haunting them until they reached the point where thought became action.

Brewing like this is rarely a commercial decision, it's something you make work because you have to. "It's not a route to go down if you want to make loads of money," says Burning Sky's Mark Tranter. "It's just being interested in something, isn't it? It's the hobbyist mentality."

Before he founded Burning Sky, Tranter had been brewing clean beers for a long time, during which he nurtured what he describes as more than a passing interest in beer from Belgium. After 17 years brewing at Dark Star he reached the point where he felt he needed to do something else.

He could have moved on to another brewery to make more of the same beers, commercial pale ales and the like. Or he could set up on his own and make beers that would be hard to create elsewhere. "It was the sort of itch that doesn't go away so you have to scratch it," he explains.

And so in 2013 he founded Burning Sky, artisan brewers and blenders. "We're beer first, business second," says Tranter. "To do what we do, on paper, is completely stupid. With all the space we've got we could make a lot more beer quickly and sell a lot more beer, and make a lot more money. But then you become just another factory."

Self-deprecation aside, there is

some hard-nosed commercial reality to be found in the brewery. Alongside its mixed fermentation beers Burning Sky also makes well-hopped pale ales and IPAs such as Plateau and Arise. "We really enjoy those workaday beers," he says. These core beers support the brewery and allow Tranter to follow his passion for coolship beers.

In September 2018, on the fifth anniversary of its first ever brew, Burning Sky released its first spontaneously-fermented beer, simply named Coolship Release No. 1. The beer was taken from the first brew to go into its coolship, and was a monobland – in other words it was not blended with beers of different ages. That will come with time, once the brewery has built up enough stock.

Coolship Release No. 1 was 18 months old, which is fairly young for a wild beer. It was fresh and spritzy, and drew praise from the likes of Pierre Tilquin from Gueuzerie Tilquin, Raf Souvereijns from Bokkereyder, and Yvan De Baets from Brasserie de la Senne.

"We were overwhelmed with the support and the positive feedback we had both from people in the UK and friends and brewers in Belgium and further overseas," says Tranter.

Burning Sky brewery is housed in old farm buildings, some of them Grade II listed (i.e. designated as being of special historic interest; this restricts what occupants are able to do to the buildings in order to protect England's architectural heritage).

As a result the brewery has often struggled with space, and rather than being laid out logically has grown in a haphazard, organic manner. Kegs and pallets of cans are stacked out in the yard, awaiting the attentions of a forklift. Barrels are filled at one end of the brewery, next



**Burning Sky's Mark Tranter: "We're beer first, business second."**

to the bottling line and keg filling station, and then moved on hand pallet trucks to the barrel store that sits across the yard in another barn. Here they sit in tight rows, squeezed in with barely enough room left to move between them.

It took Tranter until 2016 to secure permission to restore this barn and turn it into his barrel store, and to install a coolship in the rafters above. When he did he commissioned a local carpenter to construct an oak frame that sits around and above the coolship.

Tranter took staves from well-seasoned barrels that had seen heavy use housing the brewery's mixed fermentation beers. He suspended these staves



**Burning Sky's coolship carefully installed in the rafters above the barrel store**



from the oak frame above the coolship like a mobile above a baby's crib. Steam from the cooling wort condenses on the staves and then ferries yeasts back down when the droplets fall.

In this way Tranter encourages inoculation by a melange of wild yeasts in the air and the house culture that has grown from his mixed fermentation beers.

Tranter completed his first coolship brew in March 2017. He approximated the traditional turbid mash method, using a high proportion of un-malted wheat and some un-malted heritage grains, in order to provide complex sugars for the wild yeasts during their long fermentation.

Writing on the brewery's website, Tranter outlined the process he used:

"[This] involves step mashing, starting with a very thick mash and adding boiling liquor to raise the temperature (thank heavens for the rakes!), then pulling portions from the mash and boiling them to stop conversion, before adding these back to the mash tun for the run off. Then an extended boil using local hops that we have aged here for two years to keep the preservative qualities with minimal bitterness."

Tranter pumps the hot wort through a hard pipe-run that connects the brew kit to the coolship. After it has completed its overnight stay up in the rafters the wort, now inoculated, descends from there into a stainless steel holding tank.

"The Americans call it a horny tank," says Tranter. "It gets everything

jumping and multiplying." This essentially gives the yeast a day or two to start fermenting the wort in bulk, in more hospitable conditions, rather than going straight into barrels.

### Wind or wood?

An angry wind buffets me as I arrive at the Burning Sky brewery to visit Tranter. Burning Sky; roaring trees. The tail end of a late season Atlantic storm has blown into the English Channel and funnelled through a gap in the Sussex downs at Newhaven.

From there it doesn't take long for it to reach the brewery in the village of Firle, rattle through its buildings, and pass further inland. How many yeast cells have been carried up this way

## INTO THE BURNING SKY BARREL STORE



across the land and water? And does a strong wind like this make it more or less likely that some of them will land in Burning Sky's coolship?

Already I feel a tension developing between the wild yeasts riding on the wind and those living in the wood. Is it possible to say which make the most important contribution to a beer, to how it expresses a sense of place?

The barrels certainly have their part to play. The ones Tranter uses at Burning Sky come from a variety of places, but predominantly he favours white wine barrels from a supplier in Bordeaux. He finds these suit his beer particularly well.

He also has two large foudres, bought from Italy in 2013, in which he ages his house saison, Saison à la Provision, and the brewery's other mixed fermentation beers. "When we first bought the oak foudres I thought: am I just being really stupid? Am I just buying what's going to end up being the biggest water butt for my garden?"

With repeated use these wooden vessels have become hosts to a house culture, a mix of microbes that imparts a particular character to the beer that is unique to the brewery. But it's not just the microflora that matters. It's also the environment in which the barrels are housed, particularly its temperature as this will dictate the rate of fermentation.

At the moment Burning Sky's barrel store has only rudimentary temperature control. The brewery is gearing up for a long-overdue reorganisation, as part of which the barrel store will be extended. By the end of this year Tranter and his team will have room to empty, fill and clean barrels properly and there will be a dedicated packing line for their mixed and spontaneously fermented beers.

Moreover, Tranter plans to install solar panels on the barn's roof which will keep the temperature in the barrel store within a range of 12°C to 18°C, to promote healthier fermentation within the barrels.

Over in Gloucestershire, Gen Kaye and Jonny Mills of Mills Brewing have chosen to forego temperature control for their 70 or so barrels. Their philosophy is to make beers with minimal modern intervention. In this way the environment becomes part of the character of their finished beer.

Their brewery is in a shallow valley on the edge of the small town of Berkeley. Their small yard opens off a quiet road a stone's throw – or perhaps arrow's shot – from Berkeley Castle; on the far side an old barn backs onto a

small river, the Berkeley Pill, which joins the River Severn just a mile or so away. Inside the barn barrels slumber. This close to sea level on the Severn Vale the air is generally colder and moister than it is even half a mile away. This lowers temperatures in the yard. The building itself has no south-facing windows and is covered in ivy which insulates the barn — but only a little.

### Doing it the hard way

In 2018, with the brewery's first spontaneously-fermented beer nearing completion in unprotected barrels, the brewery endured some extreme temperature fluctuations. First there was a prolonged cold winter, 'the Beast from the East', with mean temperatures in late February and early March falling 10°C below average.

Temperatures stayed below average throughout March, slowing fermentation to a sluggish crawl. This was followed by a particularly hot summer that saw mean temperatures climb above average for much of June and July. Inside the brewery fermentation in the barrels was racing again. "We had a few go sulphury over the summer," says Mills. "I think the yeasts were stressing in the high temperatures. But they got over a few months later."

By this time Mills and Kaye had bottled Today, as the first coolship beer was named, and were bringing it into condition for release. They had to watch these bottles closely to judge when the beer inside was ready.

Everything Mills and Kaye do at their brewery demonstrates a total dedication to their beer. The long, slow brews. The constant watching over the barrels and bottles to monitor their readiness. Filling and labelling the bottles by hand. For a while the couple even lived in a small caravan in the brewery's yard to make ends meet. It's clear they want to live this particular life they have chosen to the fullest.

Mills loves the microbiology and brewing side of his job. If you get him talking about yeast his deep passion and knowledge shine through his usual laconic manner. But it's not just the technical stuff he loves. It's also clearly finished beer, with all its flavours and complexity. Dark haired and quick witted, Kaye sometimes plays down her role in the brewery but don't be fooled.

She is deeply driven by the pursuit of good beer and passionate about producing something she can be proud of. "It's the most exciting style of beer," she







Mills Brewing's Gen Kaye and Jonny Mills

says simply when I ask why she chose to do this.

"Jonny had been making pale ales and stouts for years," explains Kaye. "So for us to break off from Bristol Beer Factory where we both worked to start a brewery that made the same beers just wasn't enough. This was an exciting thing to do, a real opportunity to make it a lifestyle project. You're completely in it. It's how you earn your living but it's also something you're fascinated by day to day."

Mills tells a story of his early experiments with mixed fermentation using sourdough culture from the bakery next door to Bristol Beer Factory. "The baker just scooped it out with his hand and put it in to a pot, and that went into the wort."

He says it was then that he first saw how important time was to the process, and realised he could make good beer by letting go of control to some extent. "I had a nine gallon cask with oak chips. In six months it was tasting OK but a bit weird. Then trying it again after a year, it had a really nice *Brettanomyces* character."

### Fermentation character

I asked Mills for his take on the origins of the fermentation character that is so distinct to wild beers. "Lambic producers quite often give their barrels a good seeing to between uses, but organisms can survive in the wood. They're hidden

away from the heat and the cleaning fluids. So there will be some in the barrel. Then some must land in the coolship. And if you have rafters where the condensation is dripping back down, that will possibly be the biggest source. But you're guessing effectively."

In April last year Mills Brewing and Burning Sky set a project in motion, along with Oliver's Cider and The Kernel brewery, which may give more insight into this question. Tranter made wort at Burning Sky, using a grain bill of Pilsner malt, flaked wheat, un-malted wheat and torried oats, and sent it up to his coolship for an initial inoculation by wild yeasts.

Each producer then supplied their own barrels to house a portion of the wort, and their own mixed fermentation culture to bolster the initial coolship inoculation. The plan is to bottle small amounts of each brewery's iteration as a monoblend to showcase the different flavours achieved by each producer. The bulk of the beer will then be blended.

"It's going to be a fascinating journey as we see how the beer develops," Tranter wrote on his website. "When will it be ready? Only time will tell."

Mills points to the example of lambic producers in Belgium. "They're all using basically the same wort. They put it in the coolship in the same way. They all brew in the same season within a pretty small area, so the temperature is pretty similar. They all put it in similar barrels and leave it for the same amount of time. But you can tell. You can pick apart a Cantillon, a 3 Fonteinen, a De Cam, a Hanssens. When you step into a brewery there is a certain aroma. When you visit Cantillon, the building smells. There's a particular culture to all those buildings that you go into.

It will be similar organisms fermenting the beer but it will be slightly different strains. The minor differences in micro-organisms, minor differences in temperature, and minor differences in the wort make-up, their water, their maltster, everything just plays into making something that eventually tastes noticeably different. It will be the sum of all those parts coming together."

"It's just like how someone's socks smell different to yours," says Kaye. She's joking, but she has a point.

### A beer from somewhere

For drinkers, the romance of these beers is more about place than it is about bacterial cultures. One brewery that looks set to capitalise on this particularly well is Duration, run by husband

and wife Derek Bates (formerly of Brew By Numbers) and Miranda Hudson.

The brewery, still under construction, is based in the grounds of a 900-year-old priory in the Norfolk village of West Acre. The couple are slowly bringing the ruins back to life and plan to build a destination brewery and tap-room to draw drinkers away from their cities with the promise of slow-brew beers paired with bucolic views.

Picture spreading meadows captured within the curve of a shallow chalk-bed river. The ruins of a Norman priory at your back, stones warmed by the sun. The serenity of a small English village. And beer, really good beer, brewed on site by people who care about what they do. All of this just under two hours away from London's Kings Cross station.

"We chose not to be a city brewery," says Hudson. "We were seeing a lot of our friends' breweries reach a certain point where they had demand and they needed to grow but maybe had landlords like Network Rail and suddenly the rent was going to be hiked and they're in this funny paradox where they can't grow but they can't move. It just creates quite a problematic growing pain. We've got something historic and lots of space to grow into."

The couple eventually settled on West Acre because of its proximity to a natural water source (the River Nar runs along the edge of their site), hardwood and fruit trees, and good local barley farms.

Its location also benefits from decent transport links to London, Manchester and other major cities, plus its proximity to the National Yeast Bank. "Bates really wanted to be submerged in a landscape and drawing from it, using a lot of the ingredients and just being inspired by what's around," says Hudson.

"I think we're trying to build a beer that ties into where it's at from the very beginning," says Bates. "It's not just the ingredients you got to think of. We're thinking of the environment that's surrounding us as much as what's going into the beer."

Despite not yet having an actual brewery, Duration have already released some beers; collaboration beers or their own brewed elsewhere under contract. These are modern clean brews. Belgian style pale ales, hazy IPAs, stouts, pilsners, saisons. The brewery will continue to make these beers but the real excitement comes from the wild, coolship beers Bates plans to brew.

For Bates, part of the appeal of these





### Bringing the ruins back to life

The Norfolk village of West Acre where Duration will brew using local ingredients, including wild yeasts present in the local environment, and then invite drinkers to enjoy those beers in the landscape that created them.

beers lies in the chance to experiment and to challenge assumptions. “I want to do things that have never been done with it. It’s the last uncontrolled thing [in brewing]. I don’t want to stick to the method of blending one, two and three year stock. Who’s to say it has to be those confines?”

Maybe we can make a fantastic one in a year and a half. Maybe we take some further to six years. My biggest thing is just curiosity. God, I’d be bored to tears if I just made the same beer every single day.”

Duration will work with a blend of old and new. Clean beers and wild. Science and nature. The coolship beers will mature in a dedicated, temperature controlled barrel store. “We have technology at our disposal,” says Bates. “With things like barrels and letting them go in and out with the season all you do is you’re just slowing down your microbes. That’s kind of pointless to me.”

“I think it’s nice to harness what you can of tradition and old methods but take science and what you know and become as efficient as you can be because why wouldn’t you want to do that,” agrees Hudson.

### Going where the yeast is

With Duration, Bates and Hudson have taken a fairly direct approach to creating beers with a sense of place: they have put down deep roots in their

chosen location where they will brew using local ingredients, including wild yeasts present in the local environment, and then invite drinkers to enjoy those beers in the landscape that created them. In contrast to this, the final brewery I visited for this article takes a very different approach.

London Beer Factory has created a mobile coolship. It’s basically an 800-litre tank stuck onto the back of a pick-up truck. The aim is to take this coolship to inspirational places and capture the local yeasts, before returning the beer for ageing at the brewery’s barrel store on London’s Bermondsey Beer Mile. The brewery has 200 French oak barrels ready and waiting.

Brett Moore joined London Beer Factory in August 2018 from Beavertown, to take control of the project. He had met Sim Cotton, one of the brewery’s co-founders, the month before at Amsterdam’s Carnival Brettanomyces – a yearly beer festival dedicated to *Brettanomyces* and other less common yeast and bacteria – and been struck by his wild plan to take the wort to the yeast rather than vice versa.

“I was obsessed with mixed fermentation and wild beers,” says Moore. “I’d had enough of making Gamma Ray, and then this crazy opportunity came up and I just grabbed it because not many people are doing something on this sort of scale.”

Driving around with 800 litres of boiling hot wort in the back of a van isn’t my idea of fun. How are the logistics of this going to work, I want to know. Moore explains that there will be a kettle manway, and a rubber gasket around the rim of the coolship with a top that can be clamped down. There will be ports in the side, including anti-vacuum and pressure relief ports. Other than that? “Just fill it as full as possible – and drive super slowly,” he says.

Early plans for a brew at Kew Gardens fell through, but in late April Moore took the coolship to Wilderness Brewery in Powys, Wales. Moore also hopes



Duration’s Derek Bates and Miranda Hudson: “We chose not to be a city brewery.”





London Beer Factory, founded in early 2014 by brothers Ed and Sim Cotton, store their barrels on London's Bermondsey Beer Mile. The brewery has 200 French oak barrels ready and waiting.



to brew in Cornwall and Somerset early next year. This will mean brewing the wort locally, close to where he plans to collect the yeast.

I ask Moore how pronounced he thinks the differences be between brews inoculated at different locations. "I think there will be differences, for sure," he says. "But there are so many variables, not just the coolship night. The fermentation times will take different directions and I think separate barrels will go differently."

"I don't know if we'll be able to say this one's Somerset or that one's Cornwall. We'll have to see. It hasn't been done before, so it will be exciting to try all those experiments."

It is early days yet but Moore says a mix of single-barrel releases and blends is the brewery's most likely strategy. Around 30 of the brewery's 200 barrels are already filled with beer, some of it up to 18 months old. Moore has been busy laying down a base stock of beer that can be used to create blends as soon as the first coolship beers are ready.

He began learning to blend at Beavertown with their mixed fermentation Tempus beers. "It was pretty informal," he says. "I saw people that I know are experienced in it and they all said you've got to find your own way." Since joining the London Beer Factory he has continued to experiment and learn the art. It's a steep learning curve. "Trying to figure out how a beer will taste in six months in bottle, with carbonation and cold, is something I'll have to figure out along the way."

To help with all this, Moore makes detailed notes in order to capture how each beer in each barrel develops over time. "I've got a spreadsheet and each barrel has its own page. Everything I do — how did I build that starter, what wort was it, what microbes — it's all written down." Moore also records the gravity and pH for each barrel every month along with his own and his colleagues' tasting notes.

The idea of driving a coolship full of hot wort up onto some remote moorland and parking it there overnight is certainly a striking one. I'm not yet sure what it means for the terroir of the beers created in this manner.

In capturing yeasts all around the country, perhaps the world, is London Beer Factory exploring terroir more deeply than other breweries, or flying in the face of creating beers that speak deeply of one place in particular? What about the fact that all of these inoculat-

## BARREL AGEING AT LONDON BEER FACTORY



London Beer Factory's Brett Moore records the gravity and pH for each barrel every month

ed worts are taken back to the same place, aged in barrels and blended? How does that fit in?

As so often when discussing this subject, I seem to have more questions than answers. Spontaneously-fermented beers are full of contradictions. They're agricultural but they're also manufactured. Brewers blend them for consistency but champion them for their variability.

Brewing them involves a constant ebb and flow of control between the brewer and nature. And more than any other beer style we look to them to express terroir, a concept so slippery

that it defies attempts to place a single definition upon it.

All of this complexity is mirrored by the complex flavours in the beers themselves. As drinkers, this is why we prize these beers so highly. Well, some of us do anyway. "It's never going to replace IPA in the craft beer world," says Tranter. "The beers, to my mind, they're not for everyone. You certainly need to enjoy beers of a certain nature to enjoy these. Who are they aimed at? Idiots like me I suppose."

I know what he means but I don't think idiots is the right word. I think romantics is better.

