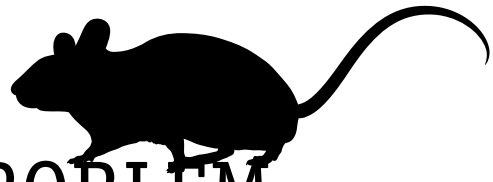

THE MOUSINESS PROBLEM

The reduction of sulphur has allowed an unusual wine fault to emerge. Simon Woolf asks why some wines taste like the bottom of a mouse cage.

Imagine a yoghurt manufacturer decides one day that using predictable laboratory-cultured lactic bacteria to create their product compromises its integrity. They decide to market a completely "natural" yoghurt where the milk is left to ferment at will, without any additions, interventions, or preservatives.

The product becomes wildly variable, sometimes delicious, sometimes outright mouldy, with strange and rather unpleasant odours. The yoghurt manufacturer's line would probably be dropped from retail outlets after customer complaints. They'd go out of business shortly after.

Implausible? Maybe, but it almost parables the developing niche of natural wine, and specifically the exponential growth in wineries who work without sulphur dioxide (SO2) additions. The resulting wines span the entire gamut from sensational and pure to dirty and borderline undrinkable.

The sulphur dilemma

It's somewhat ironic that the use, or not, of sulphur has become such a philosophical minefield. There is no evidence that the minute levels in wine cause any health issues, excepting the sub-1% of wine drinkers who have a true allergy or asthma. Yet for natural wine hardliners it has become symbolic as an additive that should be shunned, as readily as powdered tannins, Mega Purple, or yeast enzymes.

Has the no-sulphur purism gone too far? Reducing SO2 inputs to zero is a risky business. Without pristine grapes and a squeaky clean cellar, there's more than a chance that volatile acidity, Brettanomyces, or oxidation will show up like uninvited guests at a party. Most producers and wine professionals recognise and understand these faults. They're even tolerated to some degree, depending on the perception threshold or personal taste of the drinker. Plus, there's a solid body of wine science available to help mitigate the problems.

The mucky aftertaste generally known as 'mousiness' is a much more slippery pest. Poorly understood in the industry, virtually opaque to consumers, it has neither been conclusively researched nor openly acknowledged by some producers. Yet this unmistakeable taint – once recognised, never forgotten – seems to be on the increase, scurrying ever more rampantly around the cellars of a thousand radical vignerons.

My sensory sampling at RAW WINE Berlin 2016 found 20 tainted wines out of 100 tasted. Are winemakers wilfully putting faulty wine up for sale, or are they just in denial about the scale of the problem?

Some definitions: Mousiness is not synonymous with Brettanomyces, although the two often cohabit, and the latter can stimulate the former.

Mousiness is defined as a taint caused by lactic bacteria or possibly by Dekkera (AKA Brettanomyces) – the jury is still out on the latter. The compounds have long been isolated (since at least 1977) to one or more of the following: 2-acetyl-3,4,5,6-tetrahydropyridine; 2-acetyl-1,4,5,6-tetrahydropyridine; 2-ethyltetrahydropyridine; and/or 2-acetyl-1-pyrroline.

The taint manifests itself in a unique and troublesome fashion – the compounds are not volatile at the normal pH level of wines, and thus are virtually undetectable by smell. When infected wine mixes with the taster's saliva, the pH is raised to a level where the 2-acetylpyridine is perceived retronasally – an aftertaste which is technically an aroma. This nasty surprise can sometimes take as long as 30 seconds to develop in the mouth, giving an entirely new meaning to wines with a 'long finish'.

Natural wine advocate Alice Feiring offers the grimly accurate descriptions 'puppy breath' or 'dog halitosis. 'Caged mouse' or 'cheese biscuit' are barely less colourful similes. The Oxford Companion to Wine is declarative on the subject: "Once detected, the taint renders the wine undrinkable and worsens in the glass, but as many as 30% of winemakers are unable to detect it."

That last statistic is important, but it's not only winemakers who vary in their ability to taste mousiness. Anecdotal evidence suggests there's a very wide range of tolerance amongst wine professionals and consumers, from blissful ignorance to super sensitivity. An individual's ability to detect mousy taint may well hinge on the pH level of their saliva – ergo possibly a genetic condition.

The confusion in the industry isn't surprising, given the complexity of the problem and its sensory analysis. Some commentators insist

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PHOTO: ERIC WILKES

The Australian Wine Research Institute has done research into what 'mousiness' actually is.

that 'mousiness' is a subjective tasting term. It's not – the word has been used scientifically as a fault descriptor for decades – for example, Reinhard Eder's classic Weinfehler textbook from 2003 uses the German translation 'Mäuseln'. The French equivalent is 'Le goût de souris', a poetic-sounding phrase describing a problem which is anything but.

Research into mousiness exists, notably from the Australian Wine Research Institute and Austria's Klosterneuburg, but still leaves many unanswered questions. It's generally accepted that low SO2 levels, high pH (usually related to low acidity), poor hygiene, and the presence of oxygen provide the best conditions for mousy taint to develop – given that the right lactic bacteria are already floating around in the winery. My own findings from tasting some 2,000 wines a year suggest that the problem occurs almost exclusively in wines made without any SO2 additions.

Making wine without using any SO2 is comparable to a trapeze artist refusing to use a safety net. The risk of catastrophe is ever present. There's a particular challenge when winemakers who spurn the use of SO2 become ardent or quasi-religious about the topic.

Different approaches

Mas Zenitude is a small estate in the Languedoc farmed on biodynamic principles. It's run by Dane Erik Gabrielson and American Frances Garcia. In 2013, the estate had a serious problem with mousy taint, which developed in the barrels holding their white wine Solstice. The wine was bottled and sold, but by Gabrielson and Garcia's own admission was far from representative of their desired standards.

Wine scientist Geoff Taylor of Campden BRI confirms that free SO2 levels above 10mg/L are enough to inhibit mousiness. Meininger's asked Gabrielson why he wouldn't just add a tiny amount of SO2 to prevent the taint taking hold. The reply was simply "principle". Gabrielson and Garcia successfully prevented the issue occurring in future vintages (which produced some delicious wines), by removing the infected barrels and moving to concrete eggs, but to date they remain dogmatic on their refusal to use SO2.

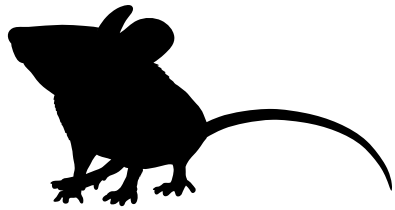
Not all producers in the natural wine space are this dogged. Slovenian winery Mlečnik are highly regarded for their skin contact white wines made in an ultra-traditional style. But father and son Valter and Klemen are unequivocal on the topic of mousiness: "In all cases it is absolutely unacceptable to bottle or sell a wine like this." Their solution is to use SO2 sparingly, having had issues with the taint developing in their wines in the past.

In some cases, producers appear to be swept along on the tide of fashion. Michael and Erich Andert run the tiny 4.5-ha Andert-Wein estate in the Neusiedlersee area of Austria's Burgenland. Biodynamic principles are ingrained into the whole operation, with fruit, vegetables, and animal husbandry all coexisting amongst the vineyards. Over the last 18 months, Andert attracted attention from international press and importers, mutating from a hyper-local operation to an increasingly renowned name in the natural wine bars of London, Paris, and New York.

Joseph Di Blasi, a well-known distributor of natural wines, asked the brothers to bottle some of their wines without added SO2, which they did. The experiment appeared to be successful, but some of the resulting wines have mousy taint. Only one of the brothers is able to detect it when tasting, and they are now in discussion about the best way forward. Michael Andert is stoical on the issue: "We're lucky to have had all this success so quickly; we're now exporting to several different countries. But we need time to figure out whether to abandon the use of sulphur or not – we don't want to make a hasty decision."


Frank Cornelisson

At the other extreme, Belgian Frank Cornelissen has been vinifying on Mount Etna without SO2 for 16 years. The wines are idiosyncratic and frequently divide opinion, but Cornelissen generally avoids problems with mousiness. This doesn't relate to romantic notions that Etna's eruptions might maintain a high level of natural sulphur, but is due to an obsession with cleanliness. "You have to be a



maniac when it comes to hygiene," he admits. "I'll invest in any tool, any substance, anything that keeps my winery clean so long as it doesn't spoil the wine. The sky's the limit." Cornelissen uses ozone, compressed air, and anti-bacterial sprays in his fight against stray infections, whilst keeping his storage and packing areas hermetically sealed under ionised air.

Wouldn't it be easier to use a sprinkle of SO2 instead of this barrage of expensive high-tech solutions? Maybe, but Cornelissen's mission is to "make wine with nothing added", and from that he will not be swayed. Only a hypothetical scenario posed by Meininger's showed a pragmatic chink in his idealist's armour: Suppose that an entire vintage risked infection with mousy taint. Would he then intervene with sulphur? "Throwing away wine is a really radical decision. You worked your ass off for a whole year for that. If I risked an entire vintage, yes, I'd add sulphur, or buy in grapes, or do something to stop going bankrupt."

Cornelissen is now an elite member of that very small club of winemakers who have close to 20 vintages under their belts working without sulphur. Natural wine's grandfathers Jules Chauvet and Jacques Néauport also spent decades researching and experimenting before their ideas were taken up by the 'gang of five' winemakers of Villié-Morgon in Beaujolais. The risk with less-experienced producers who've since adopted this most challenging winemaking method is that the same mistakes are repeated endlessly, perhaps even implying that mousy wine is excusable on ideological grounds.

The Mlečniks have no truck with this situation: "All the unwanted flaws in wine are a reflection of our misunderstanding of natural processes – or even worse, deliberate and conscious disregard, which ultimately leads to anarchy."

Assuming that anarchy isn't a desirable endgame, the natural wine world needs to call out mousiness as the growing scourge it is. Winemakers need to be transparent about the problem – ideals and dogmas, however worthy, are not enough to rid their cellars of its pestilence. ■