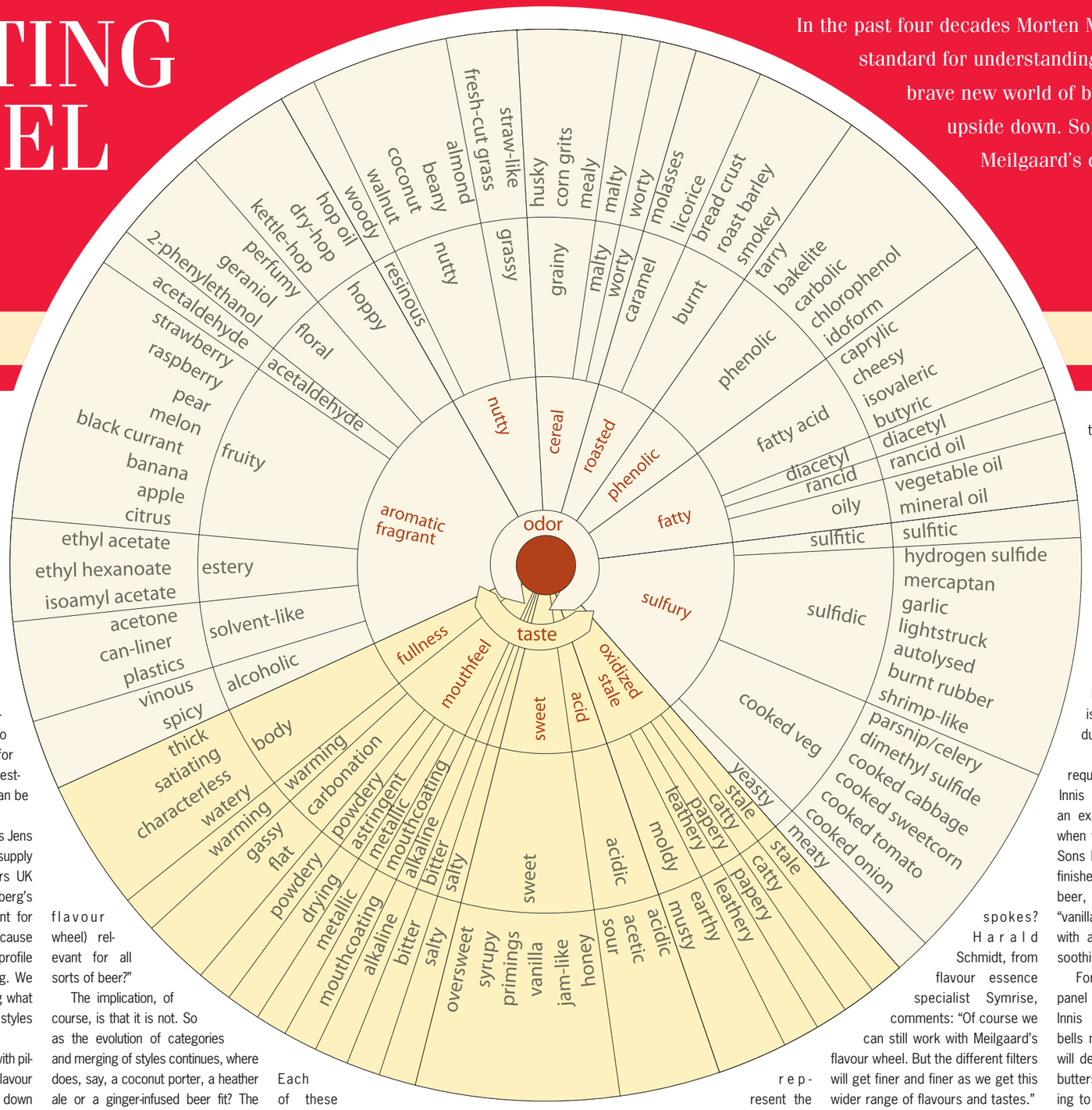
THE FLAVOUR WHEEL

REINVENTING THE WHEEL

In the past four decades Morten Meilgaard's flavour wheel has become the standard for understanding beer flavour. But beer is changing. In this brave new world of brewing flavour concepts are being turned upside down. So, asks *BG*, is now the time to restructure Meilgaard's categorisation?



Juniper, jasmine, coffee beans, berries, poppies, ginger; lemongrass; the additions sending beer in a new direction rolls off the tongue like a witch-doctor's shopping list. It doesn't end there: hefty doses of hops for extra punch, cask-ageing for a kiss of confection and a liquor-like hit and processes to impart the qualities of a spirit on beer are becoming common currency.

As the rules are rewritten, the need is growing for the process of analysing and categorising beer flavours to move with the times. Trends from the extremities of craft brewing are seeping into the mainstream; the need to communicate a new range of flavours to consumers is growing. Could it be that new tools and a new language of beer flavour are required?

"We have to put in place a flavour language which builds on what Morten Meilgaard originally did," says Richard Boughton, managing director of FlavorActiV, a global supplier of beer flavour training and products. "The work done by Meilgaard was a fantastic step forward … but since then we have moved on massively from the flavour wheel with the flavour language now used by our brewery customers.."

Since its development by Meilgaard in the 1970's when he worked at Stroh Brewery, the flavour wheel – broken down into 14 categories and 44 specific flavours – has enabled tasting panels to visually plot the profile of a beer. Accepted as the standard by scientists representing the world's leading brewing bodies, the work established a common language for describing beer flavours. It was a pioneering step: it helped quantify the qualitative.

The flavour wheel pulls together compounds with similar flavours together, leading to the development of specific profiles for different beer types that this can be used to categorise beers to a degree. It is an essential tool, allowing breweries to define characteristic profiles for their beers. Through regular testing it ensures that deviations can be quickly noted and rectified.

"It is still relevant today," says Jens Eiken, director of technical and supply chain strategy at Molson Coors UK and former headbrewer of Carlsberg's Jacobsen Brewery. "It's relevant for pinpointing flavour off-notes because then you can go back to the profile and identify what's going wrong. We should develop a tool for saying what the on-flavours are of different styles and characterising them."

Developed primarily for use with pilsners and lager-type beers, the flavour wheel, according to Eiken, falls down when it is applied to other beer styles. He suggests that communication between the world's brewers could birth a generation of new flavour wheels for use with ales, stouts and so on. He asks, rhetorically: "Is (Meilgaard's flavour wheel) relevant for all sorts of beer?"

The implication, of course, is that it is not. So as the evolution of categories and merging of styles continues, where does, say, a coconut porter, a heather ale or a ginger-infused beer fit? The rediscovery of old styles and development, at times chance discovery, of new beer genres all too often defy the conventional language of flavour.

There are more than 1,000 established flavour notes in beer. Each of these can be used to qualify the flavours illustrated by Meilgaard's wheel. For example, beer's fruit note – that's ten o'clock on Meilgaard's wheel – can be qualified as pear, citrus, apple and so on. But how do you represent the ever more exotic flavours being produced in beer?

Keeping it straightforward

Perhaps the answer is simple: does the wheel merely require more spokes? Harald Schmidt, from flavour essence specialist Symrise, comments: "Of course we can still work with Meilgaard's flavour wheel. But the different filters will get finer and finer as we get this wider range of flavours and tastes."

The need also exists for discipline when it comes to flavour analysis and product development, and Meilgaard's wheel offers important assistance in this. Eiken suggests some European microbrewers are guilty of attempting to mask off-flavours in beer by adding new flavours – such as cherry to create 'fruit beer' – rather than trying to identify and remedy the cause of a defect.

He says: "(The flavour wheel) is relevant for microbrewers because, I think, there are a lot of products out there that shouldn't even be on the market. They see this as a way of saving money but this way of fire fighting isn't the way you should produce and market beer."

Clearly, new styles of beer require their own profiles. Take Innis & Gunn's oak-aged beers as an example. Born out of accident when whisky maker William Grant & Sons began development of an ale-finished scotch in 2002, this unique beer, says Innis & Gunn, exhibits "vanilla, toffee and orange aromas, with a malty, lightly oaked palate; soothing and warm in the finish."

For a brewery's technical taste panel manager, unaccustomed to Innis & Gunn's profile, the alarm bells might begin to clang. Tasters will detect high levels of diacetyl, a butterscotch off-note which, according to conventional wisdom, tells of a flaw in production.

But consumers have lapped it up; last year the firm's turnover surged by 31%. Drinkers choose with their taste buds; they care not for conventions.

Jens Eiken comments: "Yes, the wheel is relevant for the industry, but the consumers, do they know anything about it? No they don't. Do they care? No they don't. We do need to develop a whole new tool for communicating beer flavour to the consumers."

Consumers care not for flummoxing scientific terms either. Want to turn off a consumer? Describe your beer as having "a hint of acetaldehyde", "a dash of diacetyl" or "a soupcon of iso-amyl acetate". That should do the trick. There is clearly a need to translate objective scientific language into something appealing to consumers.

"There's still an opportunity to link today's technical language with terms that the consumer will actually understand," suggests FlavorActiV's Boughton. "It should evolve directly from at least the 40 flavours regularly found and be the starting point for working with consumers to establish what the most successful flavour terms would be."

One thing's clear: 'malty' or 'hoppy' will no longer suffice. Wine has developed a language encompassing all the flavours the grape can produce. As beer continues to evolve, a new language is needed to impart to its enthusiasts the wonderful array of tastes that hops, grain, water and yeast – and the interplay between them - bring to beer. Good beer is never vapid; nor should the language we use to describe it.

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