

Bavaria, and in particular Munich, has become synonymous with beer, especially with the Oktoberfest style of beer. This however has not always been the case. Unlike its proud status of today Munich was once a sleepy backwater of the brewing industry. It was only the industrial revolution of the 19th century which transformed Bavaria, and especially Munich, into a world renowned brewing powerhouse. At the time of this transformation Bavarian dark beer, more commonly known as Bayerische or Münchner (aka Munich) Dunkel, was the predominant style, and the one upon which the reputation of Bavarian brewing was built.

That the “Bairisch” or “Bayerisch” beer, as it was variously referred to, was widely hailed can be seen in the writings of Henry Vizetelly in his report on the Vienna Exhibition of 1873 in which he relates details of the Bavarian brewing processes and how they are emulated by breweries in Great Britain, Russia and Sweden. Further evidence of the prowess of the Bavarian brewing industry during the latter portion of the 19th century is found in W. Beatty Kingston’s 1890 “A Journalist’s Jottings” where he describes the presence of four “gigantic” beer halls in Vienna, itself at the time a leading city of the brewing industry, expressly for the purpose of serving “Bairisch” beer. Kingston also documents the popularity of Bavarian beer at the time in Paris and throughout France, as do the various volumes of the 1886 London periodical named *Brewers Guardian*.

At the start of the 19th century Dunkel beer, or brown beer as it was known at the time, tasted very different than Dunkel beer of today. The most important reason for this is the fact that prior to the introduction of smoke free malt drying kilns (circa 1820) practically all malt had a smoky flavor imparted to it as a result of the drying process. This was true as well for the Munich malt from which the Dunkel beer derived its character. Today Munich malt is smoke free, but it still possesses a special malty character resulting from its lesser degree of modification, and an amber color from its being kilned at high temperatures (210 to 244 degrees Fahrenheit). Though modern Munich malt is smoke free, in the city of Bamberg smoked beers are still brewed, and it is possible to find examples of Bavarian dark lagers made with smoked malts, which are likely the descendants of the early 19th century versions of this style.

The character of the Munich malt, which typically makes up 66 to 99% of the grain bill of a Dunkel beer, is essential to the style. The balance of malt will usually be a Pilsener malt, with a small (1%) quantity of color malt (known in the U.S. as chocolate) to deepen the color. Also essential to the creation of the rich, malty, and caramel flavors found in

Dunkel beers is the traditional Bavarian decoction mashing process. This process, in which a small portion of the mash is heated to a boil and then recombined with the remaining portion to raise the temperature of the entire mash, helps to caramelize sugars created during mashing and deepens the color of the beer. In some examples it may also create a slight grainy astringency which will linger into the aftertaste of the beer.

Subsequent to the mash a long boil is employed which caramelizes sugars in the beer and further deepens its color. The beer is lightly hopped during the boil using German noble hop varieties such as those from the Hallertau or Tettang regions, which are often described as spicy in their flavor. The hop character of this style is moderate to minimal as the emphasis here is upon the malt characteristics. Another subtle component of the style is the Munich water, which has a fairly carbonate quality. This is sometimes perceptible in the flavor as a slight chalkiness in the aftertaste.

As seen in these pages recently ( Michael Jackson's article in the March 1996 issue) bottom fermentation and lagering have become synonymous with Bavarian brewing. From the early use of beer cellars, to the harvesting of ice (begun in the 1830s) to keep these cellars cool, to the development of artificial refrigeration by Carl von Linde in cooperation with Gabriel Sedylmayer II of the Spaten brewery, the 19th century Bavarian brewers led the introduction of technological advances into the brewing trade. Of course it was the adoption of the thermometer into Bavarian breweries during the second decade of the 19th century (which placed them several decades behind British brewers in this respect) that led Bavarian brewers to understand the importance of temperature control upon their products.

Given its history it is only natural that Dunkel beer is a bottom fermented style. Bottom fermenting yeasts produce a clean fermentation, generally free of the fruity characters often found in top fermenting beers. Although bottom fermenting yeasts can sometimes produce buttery flavors, such flavors are typically unwelcome in Dunkel beer. Fermentation times of seven to fourteen days at temperatures in the 40 to 50 degree Fahrenheit range are used. This is typically followed by a lagering period of as long as 6 weeks at temperatures in the 32 to 36 degree Fahrenheit range. This approach to fermentation further enhances the malty character of this style.

Another important development in the history of the Bavarian brewing industry was the introduction of the saccharometer, also by Gabriel Sedylmayer II (and also well after the British brewing industry had begun using it). This instrument allowed brewers to achieve a greater degree of consistency in their products by allowing them to measure the amount of sugars present in the beer (called the beer's gravity) at any time during the brewing

process, and thus to better control the alcohol content and flavor profile of the beer. Bavarian Dunkel beers brewed today will typically have starting gravities in the 1.048 to 1.052 range, and alcohol levels of about 4.5 to 5.5% (w/v). As such it is not a strong style, but rather one whose full, malty character is meant to be enjoyed in great quantity, such as from a traditional stoneware Maß (i.e. a one liter stein), along with typical Bavarian fare such as pretzels or wursts.

How the beer is served is also an important determinant of its flavor. In Bavaria this style is often found served unfiltered at a brewery's local tap room. The unfiltered versions of this style pour a dark brown in color and are often murky, not bright or clear, with a rich tan colored head. The aroma is big, with a rich, malty, sweetish, and even earthy/yeasty smell to it. On tap it has a very low carbonation level, reminiscent of that of British bitters served from the beer engine, owing to the fact that these beers are often served from traditional wooden kegs. The flavor will be both malty and sweet, with chocolate and sometimes nutty notes, and a full dextrinous mouth feel. As mentioned earlier, the flavor may also possess both a slight astringency and a mild chalkiness. That such unfiltered beers bear a resemblance to beers of the 19th century can be found in the writings of Henry Vizetelly mentioned above, who described the beers "drunk principally by the peasantry and laboring classes" as "high colored, clammy, and heavy in bulk" with "a considerable proportion of the dextrin and sugar of the wort unfermented."

The profile of the bottled versions, which are filtered, show some appreciable differences. Filtered versions are generally a deep reddish brown in color and are clear and bright with a light to medium tan colored head. The aroma will be sweet, though only occasionally cloying, slightly malty, often with hints of caramel. It will not have the richness of the unfiltered versions nor the earthy/yeasty notes. The taste itself will be sweet, though not overwhelmingly so, and often possess malty notes and hints of caramel, chocolate or nuttiness. The mouthfeel is typically dextrinous and often a mild bitterness and/or slight astringency is present which will linger pleasantly into the aftertaste. That this modern description of Bavarian Dunkel has likely changed little during the 20th century can be seen by the comments of Dr. August Schlener who wrote in his 1908 book *The Practical Brewer* (translated from the German) that "Bavarian beer is light to dark brown, full body, holding the head well, with an always strongly pronounced sweet malt taste, against which the taste of the hops, especially the hops aroma, remains in the background."