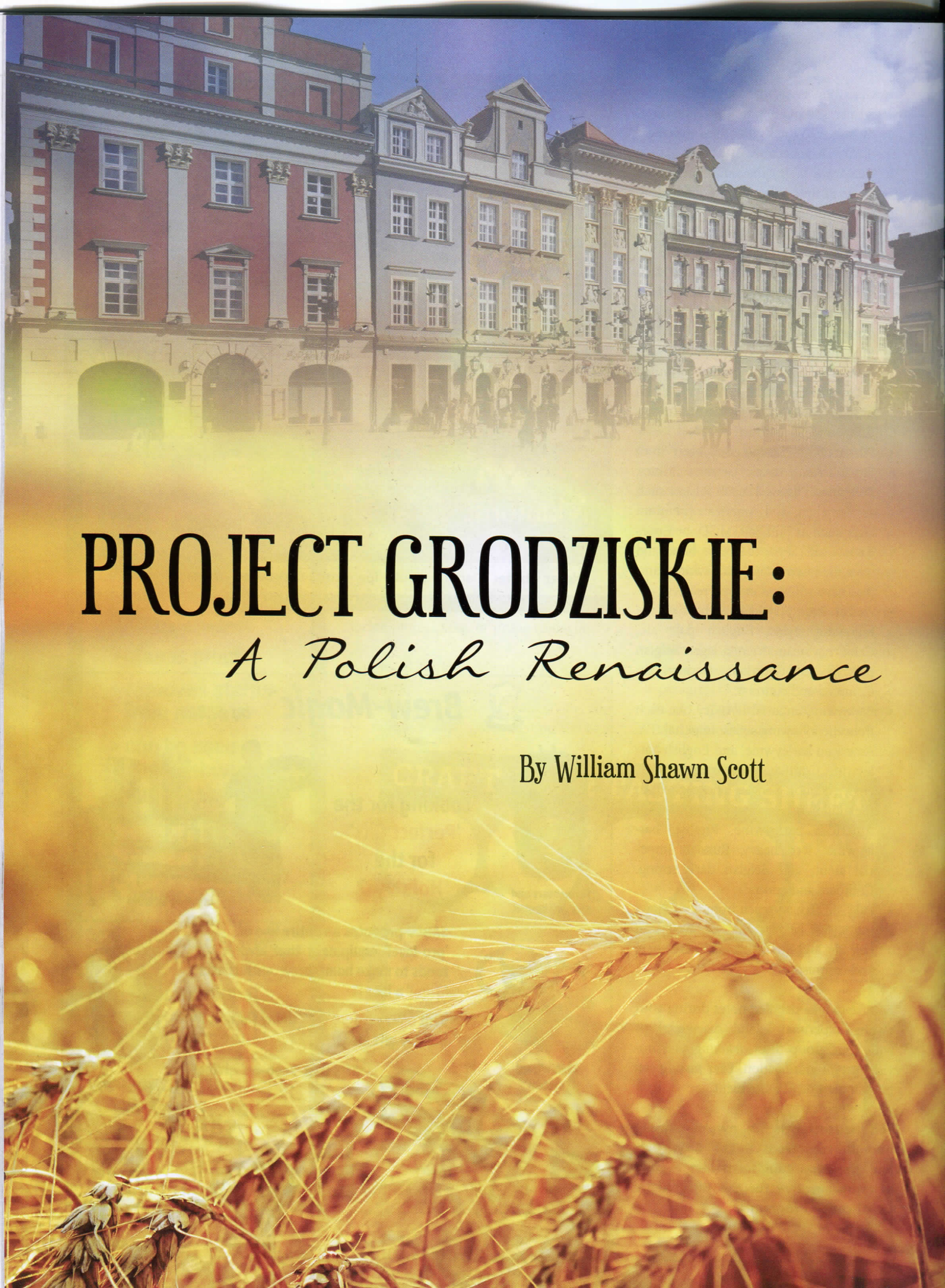

PROJECT GRODZISKIE:

A Polish Renaissance

By William Shawn Scott

Ask any brewer which style of beer Ireland gave to the world, and dry stout would be the immediate reply. Most brewers could also easily identify a number of different beer styles originating from specific regions in Great Britain, Belgium, and Germany. But if you really want to have some fun, ask the following question: "Name the one beer style that is unique to Poland." Some may shrug, others might guess Baltic porter, but very few would respond with the correct answer: Grodziskie, also called Grätzer beer.

So just what is Grätzer? It's essentially a golden, low-gravity wheat ale with a prominent smoke aroma and flavor, a moderate noble hop bitterness, and a high level of carbonation. It first appeared centuries ago in the Polish city of Grodzisk, which lies in the western province of Wielkopolska. From the late 18th to early 20th century, this region of Poland was ruled by Prussia, which referred to Grodzisk by its German name of Grätz. They called the beer Grätzer, meaning "from Grätz."

During this era, the beer grew rapidly in popularity and was eventually exported to 37 nations. For this reason, it is more commonly known as Grätzer outside of its Polish homeland. Demand dwindled in the last half of the 20th century, and production ceased altogether in the early 1990s when the final brewery producing it was bought out by a larger competitor and closed.

In 2011, the team at Choc Beer Company in Krebs, Okla. took up the challenge of resurrecting interest in this curious style by brewing and bottling an authentic Grätzer. Hopefully our efforts will encourage other brewers to try their hand at replicating this historic beer.

Grain Bill

Grätzer is defined by the exclusive use of malted wheat that has been kilned over an oak fire. Until recently, the commercial unavailability of this key ingredient left brewers with just two options. They could either purchase barley malt that had been kilned with other varieties of wood, or attempt to apply the oak smoke themselves to wheat malt that had already been kilned and cured. Neither of these techniques could fully mimic the flavor profile of a Grätzer.

Fortunately, brewers now have a third and much more authentic option. Responding to a special request, the Weyermann malting company of Bamberg, Germany agreed to produce a traditional oak-smoked wheat malt, Weizenrauchmalz, now available as part of its "heirloom and

terroir" series. This malt comprised 100 percent of the grain bill.

Hops

The traditional hop variety used to produce Grätzer beer was known as Nowotomyski, which took its name from the nearby town of Nowy Tomy [1]. It was one of a number of new varieties developed in the region by famed agronomist and businessman Joseph Jacob Flatau.[1] He imported cuttings of noble Bavarian and Bohemian-Czech varieties as the breeding stock for his early hybridization experiments in the 1840s. Although Nowotomyski is not readily available on the world market, the common ancestry and extended lineage of the Polish Lubliner hop made it the obvious choice for the project. Brewers could also substitute Saaz, Tettnanger, or Hallertau Mittelfrüh.

Water

Grodzisk has long been renowned for the quality of its mineral waters and even its most famous legend concerns the city well. In 1600, a Benedictine monk, Bernard of Wabrzezno, wandered into town and found it in dire shape. The well had run dry and the populace was in great despair. Shortly after his fervent prayers and blessings, water gushed forth from the well. Brewing immediately resumed and the beer tasted even better than it had before. For well over two hundred years, the citizens of Grodzisk would make an annual pilgrimage to Bernard's monastery, some 80 miles away, and leave a keg of Grätzer beer as a token of their gratitude.[2] In the 19th century, two independent wells were dug at the brewery. (See chart.) The team at Choc was able to closely match this water profile with the addition of a few brewing salts.

Grodzisk Water Profile[3]

	Well # 1	Well # 2
Ca +2	122 ppm	121 ppm
Mg +2	34 ppm	31 ppm
Na +	39 ppm	32 ppm
SO4 -2	183 ppm	145 ppm
Cl -	81 ppm	67 ppm
Alkalinity (as CaCO3)	350 ppm	325 ppm

Yeast

Although Grätzer is a wheat beer, traditional Bavarian weizen yeast strains are wholly unsuited for the style. Any relatively neutral top fermenting yeast will suffice, but for added authenticity the team managed to procure one of the actual strains used at the former Grodzisk brewery. Two separate strains of yeast (one flocculent and the other quite powdery) were historically used to produce the beer. The yeasts were propagated separately and pitched in a specific ratio: one part flocculent to two parts non-flocculent.[4] The flocculent yeast strain had been preserved at a university lab in Poland, and had been acquired by local homebrewers, who generously provided two slants in support of this project. Pitchable quantities of this yeast are now available from The Brewing Science Institute of Woodland Park, Colo. Any other neutral ale yeast would work well.

Producing the Wort

The traditional mash consisted of a four-step infusion process. An undated record from the Grodzisk brewery documents the specifics of the mash regimen.[5] The entire grist was mashed in (1.33 lbs. liquid per pound of grain) and subjected to an acid rest at 100° F (38° C) for 30 minutes. Another infusion over a 10-minute period

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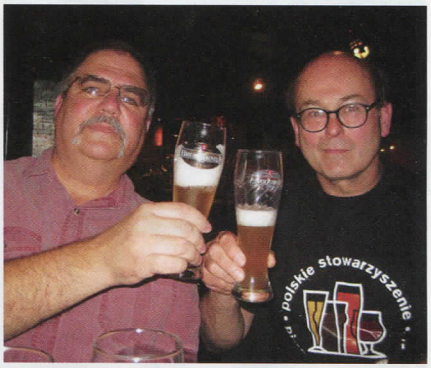
INGREDIENTS
for 5 U.S. gallons (18.93 liters)

5.0 lb	(2.27 kg) Weyermann® Weizenrauchmalz
1.0 lb	(0.45 kg) rice hulls
1.13 oz	(32 g) Lublin hops, 3% a.a. (105 min)
0.28 oz	(8 g) Lublin hops, 3% a.a. (30 min)
ISC-57	Polish Ale yeast, or other neutral ale yeast
16-25 mL	Biofine or 1 g powdered isinglass

Original Gravity: 1.031
Final Gravity: 1.007
ABV: 3.1%
IBU: 20-22
Color: 3° L
Carbonation: 3.6 Vol.
Total boil time: 120 min

DIRECTIONS
Conduct a multiple-step infusion mash: 30 minutes at 100° F (38° C); 30 minutes at 125° F (52° C); 10 minutes at 150° F (66° C) (optional); 30 minutes at 158° F (70° C); and 15 minutes at 167° F (75° C).



CLOCKWISE FROM TOP:

Brew day with the author, Dave Darrity, Choc head brewer B.J. Howell, and Choc brewmaster Michael Lalli.

The author with Dr. Andrzej Sadownik, president of the Polish Association of Homebrewers.

Former employees of the Grodzisk Brewery in Poland conduct a blind evaluation of the American prototypes.

raised the mash temperature to 125° F (52° C) for a protein rest of 30 to 60 minutes, depending on the modification level of the malt. The next infusion took 20 minutes to raise the mash to the relatively high saccharification temperature of 158° F (70° C). The mash was allowed to rest for 30 minutes before receiving the final infusion for a mash-out temperature of 167° F (75° C). Test batches with this malt suggest that a brief rest at 150° F (66° C) may also be beneficial. Since the mash consists entirely of wheat malt, a generous portion of rice hulls should be added to the mash prior to sparging.

Conducting the Boil

The Grodzisk brewery record indicated that the collected wort was boiled for a total of two to two-and-a-half hours to achieve an original gravity of just 7.7° Plato (1.031 SG). It should be noted that although two higher gravity variations (12° P and 14° P) of the beer were briefly introduced in its waning days, these were simply last-ditch efforts to restore the brewery's sinking fortunes. The true Grätzer is light in body and very sessionable.

This same record also cited two whole-hop additions, with 80 percent of the total hop charge added 15 minutes after the start of the boil and the remaining 20 percent added 30 minutes before the end of the boil. Separate laboratory analyses have confirmed that the actual bitterness levels were much lower than generally depicted—normally about 20-22 IBU.[6] A former production manager who worked at the brewery in the 1950s has also corroborated that these values were typical. Keep in mind that this still leaves a decent bitterness, especially when one considers the low starting gravity and the sulfate content of the water.

Fermentation, Bottling, and Evaluation

Records specified that the wort was initially cooled to 61° F (16° C) and ferment-

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Editor's note from Zymurgy technical editor and BJCP style guidelines author Gordon Strong: I would consider this a draft style writeup in the style of the BJCP Style Guidelines. The author is coordinating the description with Polish homebrewers working with the committee interested in the revival of the style. A final version will be posted on the BJCP website when completed and accepted. However, homebrewers may wish to enter this beer as a Category 23 Specialty Beer and provide this guideline to aid the judges.

Aroma: Oak wood smoke is the prominent aroma. Smoke intensity is medium to medium-high. A low to very low noble hop aroma is typically present, but is often concealed by the smoke. Hints of grainy wheat may also be detected. The aroma is otherwise clean, although light fruity esters are acceptable. No alcohol or diacetyl.

Appearance: Yellow to deep gold in color with good to excellent clarity. A large, white, tightly knit head with excellent retention is distinctive.

Flavor: Moderate to medium-high oak smoke flavor up front that carries into the finish. Smoke character may be perceived as somewhat acrid to semi-sweet. Moderate noble hop bitterness is readily evident and also lingers into the finish. The perception of hop bitterness is often higher than actual IBU levels would indicate because of the low gravity of the beer and the sulfate waters used. Balance is toward bitterness. Spicy noble hop flavor is low but should be perceptible. Malt flavor is low and consists of a grainy wheat character in the background. Light fruity esters may be present but are often obscured by the smoke. No sourness. No alcohol or diacetyl.

Mouthfeel: Very light in body, crisp, and dry. Carbonation is medium-high to very high, often adding a slight carbonic bite or prickly sensation. No sensation of alcohol.

Overall Impression: A low gravity, well-carbonated, light-bodied wheat beer combining an oak-smoked flavor and aroma with a clean noble hop bitterness. Highly sessionable.

Comments: Known as Piwo Grodziskie in Poland. Historically produced using a multiple-step mash. Wort was quickly fermented and treated with isinglass for clarity prior to bottle conditioning. Traditionally served in tall conical glassware to accommodate the vigorous foamstand.

History: Developed as a unique style centuries ago in the Polish city of Grodzisk (Grätz). Its fame and popularity rapidly extended from Poland and Prussia to other parts of the world in the late 19th and early 20th century. Regular commercial production declined after WWII and ceased altogether in the early 1990s.

Ingredients: Grain bill consists exclusively of malted wheat that has been kilned and cured over an oak fire. Noble hops (Lublin, Saaz, Tettnang, Lomik), moderately hard sulfate water, and a relatively clean top-fermenting ale yeast. German hefeweizen yeast or other yeasts with a phenol or strong ester character are inappropriate.

Vital Statistics: OG: 1.028 - 1.032
IBUs: 18-25
FG: 1.006 – 1.010
SRM: 3-6
ABV: 2.7 – 3.3 %

ed at slightly above this temperature for three days. Because Grätzer is an all-wheat beer, the use of finings such as isinglass was required to achieve traditional levels of clarity. The beer was then bottle conditioned to an almost champagne-like effervescence. One lab measurement placed it at 3.6 volumes of CO_2.[7] Grätzer was even served in a special trumpet-shaped glass to accommodate its vigorous foam stand.

To ensure an added level of historical accuracy, three separate pilot batches of this beer were produced, each with slightly different specifications. Samples from each batch were shipped to Poland and provided to former employees of the Grodzisk brewery in a blind tasting for their evaluation and feedback. This information was then incorporated into adjustments for the production batches.

A Final Word

Whether you call it Grätzer or Grodziskie, this unique beer offers a window into our past, an ethereal link to a world gone by. The Polish Association of Homebrewers (PSPD) has done much to preserve this singular jewel of its national brewing heritage. Now it's time for homebrewers on this side of the Atlantic to pitch in. With all of the information and ingredients currently at our disposal, it would be a shame to lose such a flavorful piece of world beer culture. So fire up your kettles, fill your trumpet-shaped glasses, and raise a toast to the brewers of Grodzisk, both past and present. *Na zdrowie!*

William Shawn Scott is an avid historian, linguist, and world traveler whose excursion into the brewing sciences began in 1987 and continues unabated 25 years later. He is a longtime member of the Fellowship of Oklahoma Ale Makers and currently resides in McAlester, Okla. with his wife, Joyce, and their three dogs: August, Sissi, and Hoover.

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