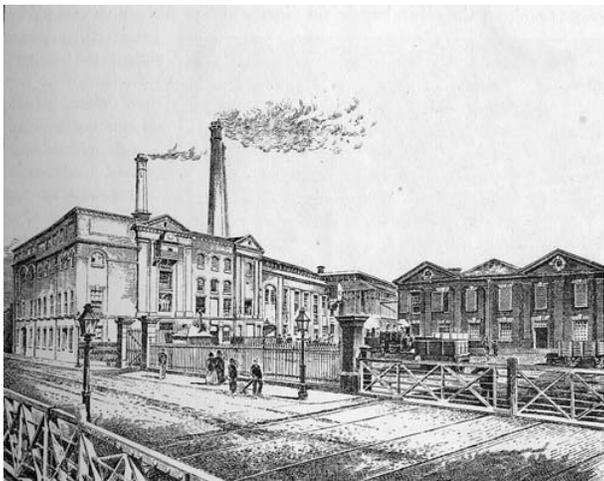


Vintage Beer Tasting

January 22, 2005

- Bass Ratcliff Ale - 1869
- Bass Kings Ale - 1902
- H&G Simonds Ltd. Coronation Ale - 1911
- Bass Prince Ale - 1929
- Worthington Burton Strong Ale - 1930
- Charrington's Prince's Brew - 1932
- Ind Coope & Allsopp Ltd. Jubilee Ale - 1935
- Courage Founder's Ale - 1937
- Fremlins Ltd. Christmas Ale - 1950
- Truman's No.1 Burton Barley Wine - 1950
- ER Coronation Ale - 1953
- Bass Jubilee Strong Ale - 1977
- Home Brewery Jubilee Strong Ale - 1977
- Wadsworth Queens Ale - 1977
- Cameron's Harelepool Crown Ale - 1978
- Ansells Strong Ale - Silver Jubilee - 1978
- St. Austell Princess Barleywine - 1979
- Greene King Audit Barleywine - 1980



Old Brewery Yard, from High Street, Burton-on-Trent 1887 - 1888 (c.)

Victorian Britain led the world in the production of beer and Burton upon Trent, Staffordshire was the epicentre of the brewing industry. The census of 1881 shows us that 8,000 people worked night and day in the town's 32 breweries, to produce beers and ales for both the home market and export all over the world.

In 1881, the brewing industry in Burton had reached its zenith. Many people moved into the town to fill the jobs created by the expansion of the breweries. Whilst most brewery workers were adequately paid and received benefits from the paternalistic brewery owners, times were

hard for a few. For some who could not support themselves and their families the Workhouse could be an unhappy last resort. The brewery owners, although mostly rich men, were often liberal minded & contributed to the community, serving as MPs and donating large sums to civic & community projects. Both the very rich and the very poor played their part in making Burton upon Trent a lively and successful town of late Victorian Britain.



Bass & Co Ltd, 137 High Street, Burton upon Trent, Staffs

These bottles represent some of the earliest commemorative bottles, in this case marking the visits to the brewery of the King and the Prince of Wales in the years noted.

The Bass Commemorative Ales

<http://www.royal-ales.com/>

Over the years brewed several Commemorative Ales have been specially brewed to mark an important occasion such as a royal visit, a brewing centenary or to honor retiring staff.

The earliest and rarest is RATCLIFF ALE, brewed in 1869. This was specially brewed to mark the birth of Richard Henry Ratcliff. The Ratcliffs were then partners in the company and "Harry" joined the board of Bass, Ratcliff & Gretton Ltd in 1894. With an original gravity of 1120°, Harry Ratcliff's Ale was very strong and remained suitable for drinking for many years.



Royal Ales

The second commemorative brew was the first of the Royal Ales. On the 22nd February 1902, King Edward VII visited Burton as a guest of Lord Burton (Michael Arthur Bass), who was a personal friend of the King. Dur-

ing a tour of the Bass brewery, the King was invited to pull the levers to start the brew now known as KING'S ALE.

The Beer was strong ale made to a special recipe. It was said to be at its best after 40 years. The first two or three years of maturation was in oak casks, which were stacked out of doors, covered by straw hurdles in the winter to keep out the cold, and sprayed with cold water in the summer to keep them cool. After maturation the beer was bottled, corked and sealed.

About 400 barrels of 36 gallons each of King's Ale was brewed. Numerous orders were received from the Palace for the beer, and consignments numbered several hundred dozen, such was His Majesty's liking for the beer. There were also many requests for King's Ale from independent bottlers and retailers who regularly purchased beer wholesale. To satisfy these orders, another quantity of beer was brewed to exactly the same recipe as King's Ale. This was later sold to bottlers along with special labels. Bottles of this brew are known as ROYAL ALE and are much less common than King's Ale.



In 1929, the King's grandson, the Prince of Wales, later Edward VIII, continued the tradition by mashing PRINCE'S ALE. Unlike his grandfather, he arrived by air and flew back to London on the same day. This of course was quite exceptional for those days.

A double celebration was marked in 1977 with JUBILEE STRONG ALE. This laying down ale commemorated the Queen's Silver Jubilee and 200 years of brewing Bass in Burton.

Some additional information from a CAMRA website:

On his visit to the brewery in 1902 Edward VII turned a valve which allowed hot water to flow and started the mashing process for the beer; I will leave you to decide whether you think that that could be accurately described as brewing the beer. Once fermentation was complete the beer was not bottled straight away. It was stored in casks under controlled condition for several years before bottling started. The earliest date at which bottling may have occurred is 1905 but it continued over an extended period. A number of other companies were allowed to bottle it although they had to use the name "Royal Ale", "King's Ale" only being used for Bass bottlings.

To create even more confusion Bass kept a large supply of original bottles, labels and corks. These have been used to relabel and re-bottle the beer over a very long period. When Bass at Burton celebrated their bi-centenary in 1977, a quantity of the beer was re-bottled with original labels and corks. A similar beer, Prince's Ale, was produced as the result of a visit to the Bass Brewery by Edward, Prince of Wales, in 1929. It was still being sold in pubs, or at least in some of the posher London bars, for drinking in 1945.



Casks being brought out of the washing shed at Bass & Co.'s Brewery 1939

Bass & Co History

In 1777 William Bass purchased a house on the east side of Burton upon Trent's High Street, which included a small brewery and was soon supplying local customers, inns in London and Manchester and merchants in Hull, for the all important Baltic trade. The output of Bass' brewery at this time was probably about 300-500 barrels per annum.

In 1787 William Bass died and his eldest son, Michael Thomas continued to build up the brewing business begun by his father. In an attempt to expand the business quickly, Michael Bass formed a partnership with James Musgrave in 1791. The Musgrave brewery was the oldest in the town, having developed from the business of Benjamin Printon, Burton's first common brewer and Musgrave had experience in the lucrative Baltic trade. However, the partnership only lasted until 1797.

Michael Bass took on a new partner John Ratcliff, in 1796 and the business continued as Bass & Ratcliff. However, by the turn of the century trading had become very difficult. Barley prices had risen steeply and Bass & Ratcliff cut production to maintain quality rather than use cheaper but poor barley and brew inferior beer.

In 1806, the loss of the Baltic trade due to the Napoleonic blockade caused the Burton brewers to concentrate on more local markets. For Bass & Ratcliff this brought rewards and they survived and grew, being one of the top three Burton breweries by the start of the 19th century.

Michael Bass died in 1827 and his share of the brewery was left to his eldest son, also Michael Thomas, who had entered the business in 1818.

The firm's partnership was further enlarged, when in 1835 John Gretton became a partner. Although by this time producing a superior India Pale Ale (IPA), introduced to the town in 1823 for the new export market of the British Colonies, Bass, Ratcliff & Gretton was still a small company.

However, Michael Thomas Bass recognized the potential trade which the railways could bring to the town and used his influence as a major shareholder in the Midland Railway, to bring the railway to the region and in 1839, the mainline reached Burton. The railway system linked Burton and its breweries to the rapidly growing industrial towns and their huge markets for beer.

The increased production this new trade demanded, from under 15,000 barrels in 1834 to over 80,000 barrels in 1849, meant that there had to be a significant programme of extending the Burton brewery premises and plant, including the purchase of malthouses in the town. This was followed in 1854, by the admission of a new partner, Joseph Spender Clay, to the company.

Bass & Co's sales to the home market continued to rest with their agencies and between 1848 and 1860 new agencies were opened in Edinburgh, Dublin, Cork and Newcastle-on-Tyne, with further offices appearing in Sheffield, Leeds, North Wales, Hull and Leicester by 1865. These agencies had become more important as the century progressed, as by 1865, only around 10% of production went for export.

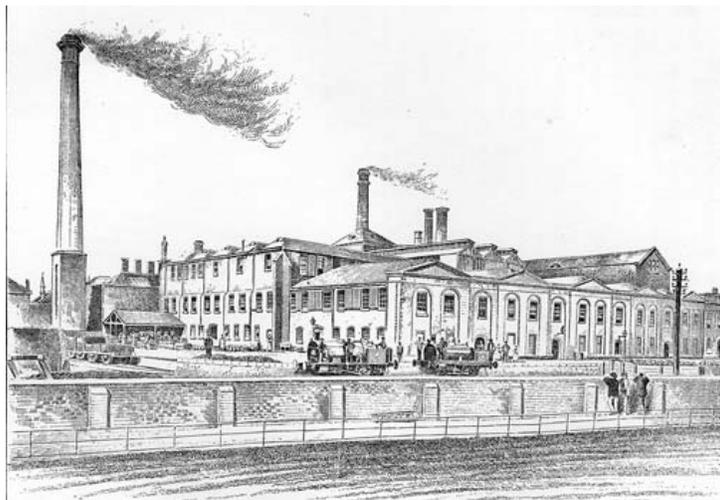
The decade from 1865 to 1875 saw continued expansion of Bass & Co, with annual production increasing from 440,476 barrels in 1864 to 871,994 barrels in 1874. Bass & Co was the only British brewer at this time with an annual output in excess of 650,000 barrels per annum. As annual production increased, so did the number employed by the company, which went from 1,167 men and boys in 1861 to 2,760 in 1888.

In 1880, Bass & Co became a private limited company, followed in 1888 by its incorporation as a public limited company. The capital raised in this move allowed the company to purchase further licensed properties. However, the period from 1888 until 1914 saw the firm continue to grow, but at a somewhat more modest pace, as the more hostile environment it was forced to operate in, with the impact of the temperance movement, began to take effect.

Restrictions in the licensed and brewing trades during World War I led to a decrease in production for Bass & Co, with output forced to below 1 million barrels in 1916-17, for the first time since 1909-10. Output continued to fall in the following year too and the company ceased to produce many of its high gravity beers, due to the high rates of duty imposed on them and the drop off in sales increased prices caused. Nevertheless, the company continued to increase its profits year on year.

However, as the century progressed the idea of a merger between Bass & Co Ltd and Worthington & Co Ltd began to take shape, despite the age old rivalry between the two firms. Such a merger offered considerable benefits to both companies, including the cost of beer distribution being reduced, licensed houses being able to offer both companies ales for sale, as well as reduced staffing, premises and maintenance costs. So it was then that the merger took place in January 1927.

This was followed later the same year by the acquisition of Salt & Co Ltd, of Burton-on-Trent, which had been fighting for its survival from the turn of the century. Such a purchase allowed Bass & Co to eliminate another source of competition and gain further retail outlets.



Salt & Co.'s Brewery, 1888, view of the brewery from the River Trent.

As the century progressed Bass' output fell from 1 million barrels in 1928-9 to 720,421 barrels in 1931-2. However, production soon recovered again as the century continued and Bass again increased its stock of licensed houses, when in 1933, it purchased James Eadie & Co Ltd.

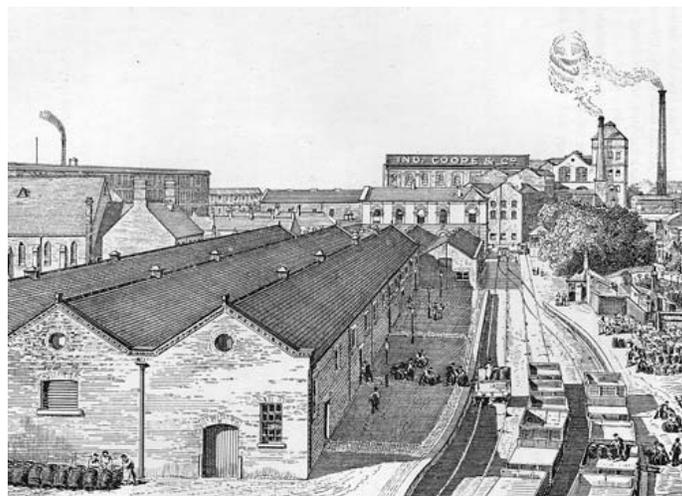
Restrictions during World War II prevented any further expansion and also deprived the company of some of its key employees, including Lt.Col. J.A. Eadie and Brigadier, the Hon. G.E.M. Baillie, both directors of the company. This was followed, in 1945, by a serious dispute between members of the board, which saw Lord Gretton resign and Arthur Manners become Chairman and managing director of the company. Post-war Britain found Bass in a poor position, with antiquated, scattered plant and an outmoded transport system, together with a lack of experience on the part of the by now reduced board of directors. This led to the purchase of new plant, but little other progress. Bass sales again fell, from 930,000 barrels in 1949-50 to 772,000 barrels in 1953-4, while Worthington's continued to rise. In fact, by 1957-8 Bass sales of beer had fallen below that of Worthington's, for the first time.

H&G Simonds Ltd, Bridge Street, Reading

Founded in 1768 and registered November 1885. Simonds was acquired by Courage, Barclay & Co Ltd 1960. Brewing ceased in 1979 and the brewery was demolished in 1983.

Truman, Hanbury & Buxton Co Ltd, Black Eagle Brewery, Stepney

The brewery was built by Thomas Bucknall c 1666, and was acquired by Joseph Truman in 1679. Brewed at Burton on Trent, 1873-1971, and registered, January 1889. Truman was taken over by Grand Metropolitan in 1971, and was merged with Watney Mann in 1974, brewing end in 1988.



Ind Coope & Co. Ltd, Burton-on-Trent 1888

Ind Coope Ltd, High Street, Burton upon Trent and Star Brewery, Romford.

In 1799 Edward Ind bought the Star Inn Brewery at Romford, Essex, together with fellow business man Mr Grosvenor. In 1815 Grosvenor was succeeded by John Smith, who worked within the brewery until 1845 when he was bought out by W. Octavius Edward Coope and his brother George. As a result of this the brewery was re-named Ind Coope & Co.

In 1848 Edward Ind died leaving his two sons Edward Murray and Edward Vispan, to take his place in the partnership. The Brewery in Romford was flourishing yet the desire for expansion was unequivocal. With the introduction of pale ales to the beer market, Ind Coope & Co looked to areas sympathetic to this type of brew, to site a new brewery. The high quality of the India Pale Ale produced from the gypsum rich waters of Burton upon Trent, combined with the transport opportunities within the town made Burton upon Trent their first choice destination.

Ind Coope opened their brewery in Station Street, Burton upon Trent, near to the Midland Railway Line, adjoining Allsopps brewery. Originally, the building work had been initiated by a Mr Middleton on behalf of another Burton brewer but had been brought to a halt due to ill health and financial difficulties. In 1856 production began in what was then a state of the art brewhouse and they saw the first production of their India pale ale.

The brewery in Burton went from strength to strength, becoming a limited company in 1886. By 1881 Ind Coope had 450 employees at their Station Street brewery, compared to the 50 who had been working there in 1860. Like the other brewers in Burton, Ind Coope relied heavily on the Railways for the transportation of their goods and they were given permission to have their own track within the brewery yards to move products and raw materials around the sites. In 1900 access to the Ind Coope private rail network was via the Shobnall Road, Moor Street level crossing.

When Alfred Barnard visited Ind Coope in 1889, he met with Mr Bird, the brewery managing director, who informed Barnard that the Burton Brewery covered 23 acres, employed well over 400 men and boys and their barrel out put was 200,000 (Noted Breweries of Great Britain & Ireland, Alfred Barnard 1889).

In 1899 Ind Coope produced one of its most well known brews, Double Diamond. In 1948 the bottling stores at Curzon Street produced over 1,000,000 bottles per day and the slogan "Double Diamond Works Wonders" was to last for many years.

In 1934 Ind Coope merged with Allsopps to create Ind Coope & Allsopps Ltd. In celebration the wall which had stood between the two breweries for over 70 years was demolished. The company changed its name to Ind Coope Ltd, on 1st January 1959 and became part of the Ind Coope, Tetley

and Ansells group in 1961. Two years later the group was renamed Allied Breweries Ltd.



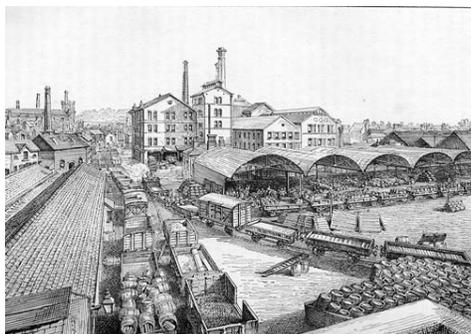
Worthington & Co Ltd, 137 High Street, Burton upon Trent

Worthington's was founded by William Worthington (1723-1800), in 1761. William, who was born at Orton-on-the-Hill, Leicestershire, had moved to Burton in 1744 and worked as a cooper for a local brewery. Then in 1761 he married a widow, Ann Tarrat, and leased a house on the east side of High Street, Burton, on a site now covered by the southernmost extension of Coors Brewers' offices. At the rear of the house he built a brewery.

William and Ann had two sons, William (1764-1825) and Thomas, who later joined their father's firm. In 1791 the sons married the daughters of Henry Evans, one of the most substantial brewers in the town, with premises opposite those of Worthington's. In fact Thomas and his new wife, Sarah, rented the northern half of the Coors Brewers Town House, while Michael and Sarah Bass occupied the southern half. Both Bass and Worthington children were born and reared under the same roof, 136 years before the two brewery businesses merged.

In 1819 Worthington's purchased the larger premises of Evans' Brewery and made it their own brewing centre. When the second William died in 1825, his only surviving son, also William, bought the brewery interests of his cousins, Thomas' children, so becoming sole proprietor. The original Worthington brewery now became a wines and spirits vault, a flourishing business, known as 'The Distillery', Burton.

In the 1830s William brought in Thomas Robinson, to manage the brewing business, then known as 'Worthington & Robinson'. However, in 1862 William dissolved the alliance with Robinson, so that his own sons may acquire the business. The company became known as Worthington and Company, the co-partners being: William (1799-1871), with two of his sons, William Henry (1826-1894) and Calvert (1830-1871), who were joined two years later by his youngest son, Albert Octavius (1844-1918).



Worthington's Brewery, Burton-on-Trent 1877 - 1888 (c.)

In 1866 Worthington's employed Horace Tabberer Brown, as a Chemist, making them one of the first brewers in the world to employ brewing chemists to work on quality control and to investigate the biochemical reactions occurring in the brewing process.

In 1871 William II died and the business passed to his sons: William, Calvert and Albert-Octavius. Calvert died in the same year, so William and Albert-Octavius became the sole owners of the brewery.

Under their leadership and the influence of William Posnette Manners, (Head Cashier /Office Manager) and Horace Tabberer Brown (Head Chemist), the brewery expanded rapidly. By 1880 Worthington's IPA was challenging Bass' product in popularity and sales in the home market, although there was little export trade by Worthington's. Nevertheless, by 1888, the company was employing 470 men and producing 220,000 barrels of beer a year.



Worthington Floater outside a pub in Burton on Trent. 1910-1930 (c.)

In 1889, the firm was registered as a public company and William was elected chairman. However, when William died in 1894 he left no heirs and was the fourth and last generation of the Worthington family to have anything to do with the management of Worthington & Co. The Manners family became the major shareholders and the company remained in their control well into the 20th century.

Worthington & Co Ltd merged with Bass, Ratcliff and Gretton in 1927, forming Bass & Co, but continued to operate as a separate concern until brewing ceased in 1967.

Charrington & Co Ltd, Anchor Brewery, Mile End Road, Mile End, London

Charrington & Co Ltd have a long and interesting history. Initially, the company began when John Wastfield, a member of the Brewers' Company from 1738, took Joseph Moss into partnership with him in 1757. He then moved premises from his original brewery in Bethnal Green, to the Anchor Brewery, Mile End Road.

In 1766, Wastfield and Moss were joined by John Charrington and when John Wastfield retired in 1769 his shares were purchased by John Charrington. In 1783 Joseph Moss also retired, leaving John and his brother, Harry Charrington, in full control of the business.

By 1807/08 Charringtons had progressed to being the second largest brewer in London, producing 20,252 barrels a year, as opposed to their nearest rival, Kirkman, who was producing a mere 98 barrels more.

Following the death of John Charrington, in 1815, the business was continued by Harry and John's son, Nicholas, until Nicholas' death in 1827. Nicholas was succeeded by his own sons, Edward and Spencer. While

John Charrington's nephew, also Nicholas, had already joined the firm in 1806.

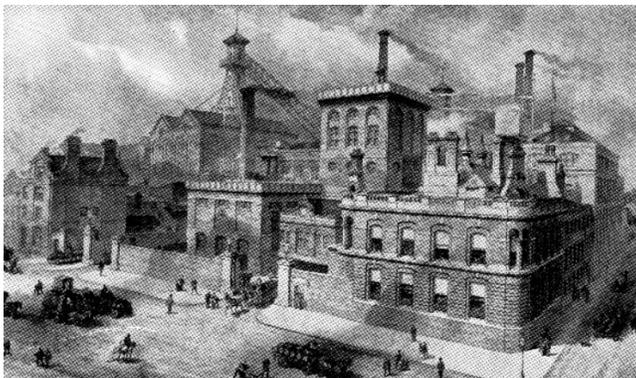
The firm acquired Steward & Head, of Stratford upon Avon, in 1833 and subsequently traded as Charrington & Head, until Head's death in 1880, when the firm again became known as Charrington & Co. In 1872, they established the Abbey Brewery, Abbey Street, Burton upon Trent. However, this operated as a separate company to the Anchor Brewery, until 1897, when the two businesses were joined to form Charrington & Co Ltd.

Over the coming years the company made a number of take-overs of smaller, independent breweries in the south-east of England and continued to be dominated by members of the Charrington family itself.

Until 1925, the company's production of India Pale Ale was centred at the Abbey Brewery, Burton, but in this year was transferred to the Anchor Brewery, Mile End and the Abbey Brewery closed a year later.

In 1933, Charrington & Co Ltd acquired Hoare & Co Ltd, Red Lion Brewery, Lower East Smithfield, London. This was the largest and oldest firm acquired by the company. It also meant that the new company owned 1/3rd of licensed houses in the City of London, where they occupied 2 ½ acres of the City's square mile. Hoare & Co Ltd made the famous Toby Ale, which Charringtons now adopted as its own brand and trade mark.

Charrington & Co Ltd continued with its acquisition of other breweries and even a mineral water manufacturer, Batey & Co (acquired 1952). In 1962, the company merged with United Breweries Ltd through Charrington United Breweries Ltd and then in 1967 merged with Bass, Mitchells & Butlers Ltd to form Bass Charrington. The Anchor Brewery ceased production in 1975 and the company finally closed its offices there in the mid 1990s.



The Anchor Brewery looking west. Only the building to the right remains.

Courage & Co. Ltd, Anchor Brewery, Horselydown, Bermondsey

<http://www.keith.emmerson.btinternet.co.uk/breweryh.html>

The brewery was bought by John Courage in 1787. It was known as Courage & Donaldson 1797-1851, and registered as above in April 1888. They merged with Barclay, Perkins & Co. Ltd in 1955 to form Courage, Barclay & Co Ltd.

From 1960 was known as Courage, Barclay, Simonds & Co Ltd and was renamed Courage Ltd in October 1970. The Anchor Brewery closed in 1981 and redeveloped as housing, all brewing being transferred to a new brewery at Worton Grange, Reading. It was taken over in August 1972 by Imperial Tobacco Group Ltd which was acquired by the Hanson Trust in 1986 who sold Courage as a separate concern to Elders IXL. Courage has now taken over all the Grand Metropolitan breweries.

Courage: owner 1955 - 1986

http://www.thrale.com/history/english/hester_and_henry/brewery/

John Courage was a shipping agent at Aberdeen. He moved to London and founded a business in 1787 when he purchased a brewery in Southwark. Before the First World War (1914-18), the company - known as

Courage & Donaldson between 1797 and 1851 - was a London brewery. In the inter-war years it extended its operations to the England's Home Counties, however, its customer base rested on the thirst of London's dockers. In the 1950s the docks began to decline. Courage responded with mergers and acquisitions most of them in southern England. In 1955 the company merged with its great Southwark rival Barclay & Perkins. After the 1955 merger the brewery was known as Courage, Barclay & Company Limited. From 1960 it was known as Courage, Barclay, Simonds & Company Limited. After the merger, the Barclay's site was used to build a huge bottling factory, appropriately called the Globe Bottling Store. The company was renamed Courage Ltd in October 1970.

The Anchor Brewery finally closed in 1981 and the buildings were demolished. The land was sold for redevelopment as housing. All brewing being transferred to a new brewery at Worton Grange, Reading, Berkshire.

The remains of the ancient Globe Theatre were discovered during redevelopment on the old brewery site in 1989, and after seven years of campaigning led by Sam Wanamaker, a reconstructed Globe Theatre was opened to the public in August 1996 with a performance of The Two Gentlemen of Verona, the first production held on the site for more than 350 years.

Fremilns Ltd, Kent

This brewery dates back to approximately 1790 and was acquired by the Fremlin family in the 1860's. It was taken over by Whitbread in 1967. Brewing was moved to Flowers in Cheltenham and the brewery closed in 1972. In the 1990's production was moved to Castle Eden but the brand was dropped in 1997.

Anells Brewery Ltd, Birmingham, West Midlands

Founded in 1857, it merged in 1961 with Tetley Walker and Ind Coope breweries to form Allied Breweries. The Aston Brewery stopped brewing in 1981 and production was moved to Allied's Burton plant. Currently, early 2002, the brand is produced by Carlsberg-Tetley at their Leeds plant.

Camerons Brewery Company, Durham

Camerons started brewing in 1872 and moved to the Lion Brewery in 1893. It ceased to be independent when purchased by Ellerman Lines in 1974. It was further sold to Barclay Brothers in 1983 and Brent Walker in 1989 at which time it was brewing Toll Cobbold beers. Following the failure of Brent Walker it was purchased by Wolverhampton & Dudley in 1992. Following a failed takeover W & D in 2001 it was sold to Castle Eden in late 2001. Brewing still continues at this site now under the name Castle Eden & Cameron's Brewing Company.

Greene King, Bury St Edmunds, Suffolk

The Greene and King families came together in 1887 to form Greene King and Sons Ltd. There has been a brewery on this site in Bury St Edmunds since at least 1700. Brew House was built in 1938.

Home Brewery, Nottingham

Brewery was founded in 1890. It was taken over by Scottish & Newcastle in 1986. It was closed in 1996 with production of its brands moved to Mansfield. Brewing of the brands is currently taking place under contract at Everards.

St. Austell Brewery Co. Ltd, Cornwall

Founded by Walter Hick in 1851 as a wine merchants and started brewing in 1860, this brewery is still in the ownership of the same family. The brewery was rebuilt in 1891.

Wadworth & Co Ltd, Wiltshire

Brewery opened in 1837 and was acquired by Henry Wadworth in 1875. Still run as a traditional brewery, it is one of the few in the country to employ a cooper.

Brewery historical information from *The Directory of UK Real Ale Breweries*: <http://www.quaffale.org.uk/index.html>

Brewery pictures and images from *Staffordshire Past-Track*:

<http://www.search.staffspasttrack.org.uk/engine/theme/default.asp?theme=266&text=0>

Old, Strong and Stock Ales

by Martin Lodahl

http://www.brewingtechniques.com/library/styles/2_5style.html

TRULY BIG, TRULY OLD

A century ago, the terms old ale, strong ale, and stock ale were used interchangeably in Britain to describe tawny, high-gravity, high-alcohol ales. Several centuries before that, beers of that description were the rule rather than the exception. These were truly big beers -- in the year 1086, for example, one brewer used 175 quarters (78,400 lb) of barley, the same amount of wheat, and 708 quarters (317,184 lb) of oats, to make 84,768 gal of good English ale -- from the Domesday book and quoted by Randy Mosher (1), this recipe specified an impressive 5.6 lb of material per gallon! Wort gravities much higher than we commonly see today were preferred, when refrigeration was unknown and transportation was slow and uncertain. Some caution should always be used in interpreting old recipes: weights and measures varied, malt characteristics varied, mashing techniques varied before thermometers and hydrometers were regularly applied to brewing, and old process descriptions left much to the imagination. Nevertheless it is clear that extremely high gravities were very much the rule through the 18th century, and gravities much higher than today's were the rule through the 19th.

Originally, the preservative effect of alcohol was the main reason for these high gravities, an effect later enhanced by very high hopping rates after hops came into general use. Today's old ales still tend to be strong, hoppy, and malty, but the name probably derives less from the characteristics they share with the ales of the middle ages than from the relatively long secondary fermentation needed to avoid a heavy, cloying, syrup-like flavor.

Before the role of yeast in fermentation was understood, and before brewers learned to take precautions against contamination from airborne microflora, brewing was an occupation of the cooler months. Grist was mashed more than once; the secondary mashes produced a light small beer, running beer, or present-use ale for immediate consumption. The first mashes produced a strong provision beer or stock ale to be stored for the summer months.

In England, storage was either in large wooden vats or in wooden casks, which harbored yeasts of the *Brettanomyces* genus and other microflora. Beers treated in this fashion developed sour and fruity flavors, once considered an indispensable part of the flavor profile of old ales; only one example -- Greene King's "Strong Suffolk" -- survives today to carry on this tradition. Though British methods and practices influenced American brewing, the cellaring of the stock ales once produced by many American breweries used aging techniques somewhat different from their British counterparts, largely lacking the *Brettanomyces* influence (2).

THE CHARACTER OF CLASSIC EXAMPLES

At the beginning of the 20th century, old ales and stock ales were still very strong ales. According to Wahl and Henius (2), an 1896 Bass Strong Ale was brewed to a gravity of 24.2 Balling (approximately 1.097 O.G.), with an alcohol content of 6.85% (w/v) and a lactic acid content of 0.288%. A 1901 "Olde English Ale, Dog's Head bottling," weighed in at 21.39 Balling (approximately 1.086 O.G.), with 8.75% alcohol (w/v) and 0.162% lactic acid. An 1882 analysis of "Somerset draught ale, three years old," showed a hearty 22.63 Balling (approximately 1.091), 8.57% by weight, and a sharp 0.63% lactic acid. In a pair of 1890 analyses comparing the development of a single product, 18-month-old Worthington Burton ale was measured at an impressive 24.2 Balling (approximately 1.097), 7.85% alcohol (w/v), and 0.3695% lactic acid, while an 1800 bottle of the same had an even greater amplitude, at 25.8 Balling (approximately 1.103), 8.7% alcohol (w/v), and a firm 0.6095% lactic acid. For an indication of relative sourness, Guinard (3) reports that today's lambics range from 0.049% for an extremely soft example, through 0.382% for a gueuze, 0.628% for a fruit lambic, and 1.345% for a ropy lambic. That fruit lambic must be an unusually hard example, like Cantillon, to have nearly twice the lactic acid of a gueuze, and the ropy lambics I've tried have all been intensely sour indeed.

In these very malty high-gravity beers, though, the effect is likely to be perceived more as complexity and a certain drying of the flavor, than as lambic-like sourness. And indeed they weren't as sour as the lambics of their day; Wahl and Henius reported that lambics analyzed in the same time frame as these ales were around 1% lactic acid. The lactic acid content of

today's lagers is near the flavor threshold of 0.04%. For further comparison, an 1896 analysis of nine American stock ales produced an average wort density of 16.73 Balling (approximately 1.067), 5.55% alcohol, and 0.256% lactic acid, while in a 1900 analysis a Canadian stock ale measured 14.45 Balling (approximately 1.058) and 4.75% alcohol. No lactic acid figure is given. The type of balance the producers of old ales sought to create varied. Some beers were large and sweet, some large and dry, others large and sour, but the English examples were uniformly massive. American examples seem less so, but are still larger than the general run of American beers at the time and have a higher lactic acid content than other American ales or lagers.

The hopping schedules apparently further shifted the flavor balance toward a firm dryness. The British brewers of the day had no objection to importing materials, and hop charges could consist of as much as 50% imported hops, though Kent Goldings were valued for flavor and delicacy then as now. It is difficult to determine the cultivars used, but the sources were Bavaria, California, Kent, and Sussex.

Kettle hops were applied in a single charge, generally at the beginning of a 1- to 2-h boil, at a rate of 2-3 lb/bbl. Taken as a ratio of pounds of hops per quarter (336 lb) of malt, this lands in the 10-14 lb range, as compared with 8-10 lb for bitter, as low as 4 lb for mild, or as much as 20 lb for Burton export ale. They were also frequently dry-hopped at a rate of around 1 lb/bbl. Although we can only guess at the bitterness, it is clear that these beers were emphatically hopped.

PRODUCTION METHODS

In Britain, production methods were similar to those used for the more familiar pale ales. Because many brewers felt that beer made from it would keep better, much of the available malt was made from barley imported from California, malted in ways that would be familiar today.

As was the case with pale ales, the mash was usually an infusion of approximately 125 lb of malt/bbl (American) of water, beginning at 151- 152 degrees F, standing for 15-30 min, then raised through hot-water underlet of the mash tun to 153 degrees F and let stand for 1-1/2 to 2 h before tapping. The sparge would begin at 170 degrees F and gradually decline, to keep the temperature of the sweet wort running into the kettle at 152 degrees F. Even a century ago, it was common to add invert sugar or glucose to the kettle. The water used was generally the same as that used for pale ales; some brewers believed it was advantageous to raise the sulfate content and lower the chlorides.

In America around the same time, stock ales were brewed generally either from pale malt alone or with the addition of 25% sugar in the kettle, 30 min before knockout. A common mashing method was to mash in at 149- 151 degrees F, raise the mash temperature through hot-water underlet to 154 degrees F, and rest until 1 h after conversion took place. Sparge water temperatures would begin at 176 degrees F and decline gradually to 165 degrees F. Hopping was usually at a rate of 2-3 lb/bbl, with one-third of the charge added when the wort began to boil, another third 1 h later, and the final third 1 h after that, about 10 min before knockout. Wort densities were generally in the 16-18 Balling (1.064- 1.072 O.G.) range, as mentioned above. The wort was cooled to approximately 59 degrees F and pitched with 1.5 lb of yeast/bbl, then allowed to rise in temperature up to approximately 70 degrees F and held at that temperature for the next 36 h. The yeast would then be roused and skimmed, settled for two days, and then run into the trade packages (barrels, generally). Before bunging, 1/4 lb of dry hops would be added, plus a pint of 30% cane-sugar solution per barrel. After 3- 4 months of aging, the ale was ready to ship.

MODERN METAMORPHOSES

All of this changed, of course, with Prohibition. With brewing effectively outlawed in the United States in 1919 (earlier, in some states), continuity was lost both in the development of a beer esthetic and in the production of quality beers. Brewers returning to their craft after a hiatus of 14 years or more found that much had to be relearned and that tastes had changed; the spate of brewing manuals that appeared in these first days make it clear just how dramatic the change was. Nugey provides an especially clear example of a stock ale with a gravity of 17 Balling (1.068 O.G.) made from 4025 lb of pale malt (presumably six-row, based on the context of its description), 1260 lb of flaked maize, and 1780 lb of invert syrup for a 100-bbl batch (4).

The recipe is compiled from information appearing in the book, gathering together general data and applying them to a specific recipe while omitting the advertisements for the author's own products and expanding the quantities and units when necessary.* Wherever possible, original phrasing has been preserved. The ingredients and quantities listed are from a table on page 42 of the original text. The process through the boil begins on page 39 of that text, the cellaring discussion on page 41, and the formulas for computing required quantities of water on page 24. Because of the degree to which this text has been synthesized, I have made no attempt to mark the "splices," in the interest of readability. Some very peculiar remarks have been preserved and placed in quotation marks. It appears to be a perfectly usable recipe, though my own experience with the author's formulas suggests that the volume of sparge water is a considerable underestimate; for a batch size of 100 bbl, using closer to 100 bbl of sparge water would likely produce better results.

At first glance, it appears that one of the most remarkable aspects of this recipe is the very long aging for a beer of substantial but unexceptional gravity. What is actually more remarkable is that the fermentation and cellaring directions are intended to apply to beers of all gravities, not just to stock ales. In the works of Nugey, no distinction in processing is made, and that appeared to be common practice for American brewers of his time. This particular stock ale was a much lighter beer than the English examples of a generation or two earlier but is in the range cited by Wahl and Henius (see above) before Prohibition.

After World War II, however, the picture changed. In another book by Nugey (5), stock ale is described as "... an ale having an O.G. of not less than 15 Balling and usually of a vinous character," but an analysis of a stock ale appearing a few pages later shows a gravity of only 12.8 Balling, 3.5% alcohol by weight, and, interestingly, a lactic acid content of 0.23%, which in a beer of that magnitude would be perceived as emphatically tart. In America, the terms "stock ale" and "strong ale" were no longer synonymous.

Sadly, the British beer industry was not immune to the same effect. The reasons for it are clear enough: tastes appear to have grown progressively more bland in the postwar world, and the need for economy in production processes increasingly affected the nature of the product. By its nature, old ale is expensive to produce, requiring much more malt and, perhaps more important, making much greater demands upon tankage than its lighter brethren.

The effects of a taxation system based on wort gravity also should not be overlooked. Beginning with Gladstone's "Free Mash Tun Act" of 1880, worts of a gravity higher than 14 degrees P were taxed at a proportionately higher rate than lighter worts, a trend that only intensified with the passage of time (6). Naturally, this Act made the already expensive strong ales even more expensive, increasing their disadvantage in the marketplace.

TODAY'S EXAMPLES

The descriptions that follow owe a great deal to the works of Michael Jackson, especially his recent *Beer Companion*, a book both more comprehensive and more legible than my own tasting notes.

Today's old ales from UK breweries fit into roughly three bands covering a wide range of gravities. The low-gravity band covers the 1.040s and consists of beers very similar in composition to the mild ales or bitters produced by the same breweries, but with a greater percentage of crystal and dark malts, sometimes different hopping, and sometimes longer aging. Examples of this approach include the old ales from Adnams, Harveys, Brakspear, Hook Norton, King & Barnes, Timothy Taylor, Cotleigh, and Oak.

The midrange band includes some of the classics of the style. Although Young's does not apply the name "old ale" to their Winter Warmer, it has the necessary attributes of firm and rich maltiness, dark color, and smooth sweetness. It weighs in at 1.055 O.G. and 4% alcohol (w/v). From Theakston's comes Old Peculier, perhaps best known to most Americans for its peculiar spelling and to beer lovers everywhere for its chewy complexity and treacle-like notes. Jackson places it at 1.057 O.G. and 4.2% alcohol (w/v) (7). In addition to the expected pale ale and crystal malts, it gets some additional color and flavor from torrified wheat, caramel, and three different sugars in the kettle. Fuggles hops are used for bittering and dry-hopping, with some other hops (including Northern Brewer) also used for bittering.

From the Greene King brewery comes a pair of blended ales that have the closest tie to antiquity of any ales now brewed in the UK. Greene King brews two ales that are never sold unblended, one a malty ale with an original gravity of 1.052 and 4.4% alcohol (w/v), which probably would not startle the average drinker. The other, however, traces its heritage directly to those ales mentioned at the beginning of this article, with an original gravity of 1.107 and 9.6% alcohol (w/v). This beer is aged from 1 to 5 years in a pair of very large oak tuns closely resembling the tuns long used by Rodenbach in Belgium. It is tempting to imagine that this beer has the sour complexity of a Rodenbach. Just as single-malt whiskies have a popularity unanticipated only a few years ago, this beer sold "straight" would certainly merit a strong reception. Together, the two blending beers form Strong Suffolk, 1.058 and 4.8% alcohol (w/v), which Jackson describes as "winy, oakey and iron-like." Another blend of the two plus the company's barleywine (St. Edmund, 1.060 O.G., 5.2% alcohol [w/v]) is the draft-only Winter Ale (1.060, 4.8% alcohol [w/v]), a more rounded and malty but less complex and aggressive ale.

At the upper end of the gravity range are two more of the classics of the genre, Gale's Prize Old Ale, and Thomas Hardy's ale, from Eldridge Pope. Both are sturdy enough to stand up to the old ales of a century ago. The Prize Old Ale, at 1.094 and 7.2% alcohol (w/v), is composed primarily of pale malt made from Maris Otter barley plus some black malt for color and a little sharpness. Hopped with Fuggles and East Kent Goldings and dry-hopped with Styrian Goldings, it is aged in glass-lined tanks for up to 1 year before bottling and is bottled with the expectation that it will continue to ferment. With no dosage of new fermentables or of new yeast and no filtration or pasteurization, this is the bottle equivalent of the practice of "bunging." It is clearly a beer designed to be laid down and is felt by many to reach its best only after five years or more in the bottle.

Thomas Hardy's ale is made using only pale malt, with its color derived entirely from wort density (1.125 O.G., 9.98% alcohol [w/v]) and caramelization during the boil. It is hopped with the same combination of Fuggles and East Kent Goldings, with Styrian Goldings for dry-hopping, and also is intended for long maturation in the bottle. I have some in my cellar now; it is an exercise in will power to allow it to mature sufficiently.

In North America, strong ales have not fared as well. Most beers sold under the name of stock ales are only slightly, if at all, stronger than the general run of pale ales, and it is more common for truly strong beers to be called barleywines. I can't help feeling, though, that the market has room for some strong, tawny ales of pleasing complexity and some strong and very pale stock ales generously hopped. There is nothing finer on a blustery afternoon or a chilly evening, and no better nightcap.

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