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Status, scale and secret ingredients: the retrospective invention of London porter

James Sumner*

Porter, a dark style of beer that was the staple of London in the eighteenth and nineteenth centuries, is conventionally addressed as a discrete invention, suited to large-scale production, whose appearance led rapidly to enclosure of the trade by a few industrial-scale producers. This paper by contrast presents the capitalist industrialization of brewing as co-extensive with, and reinforced by, the long-term emergence of a consensus definition of porter; the invention story is a retrospective construct that telescopes a century or more of technical change. Balancing established economic accounts, I address the role of product identity as a rhetorical device. London's greatest brewers were in part assisted in capturing smaller competitors' trade by the enshrining of large-scale production as a 'secret ingredient' in its own right, essential to the nature of the 'true' product.

Keywords: brewing/brewery; industrialization; invention

Introduction

One morning in September 2005, I was surprised to find my route to work lined with a great many toucans. Peering out at me from bus-shelters and hoardings, the comical yellow-billed birds were instantly recognizable as a pastiche revival of John Gilroy's famous advertisements for Guinness Stout, of the middle decades of the twentieth century. The new toucans, however, were captured in unfamiliar poses: disembarking from gangplanks, or preparing improbably to catapult themselves across the Irish Sea. Guinness, according to the strapline, was now coming 'all the way from Dublin.'

The campaign reflected the closure by the parent group, Diageo, of Guinness's Park Royal brewery near London. Production was transferred in summer 2005 to the St James's Gate site in Dublin, which now brews over a billion pints per year. An organization famed for its marketing ingenuity, then, was effectively promoting, in Britain, the diminution of British industrial activity. The broad context of deskilling and automation (just 90 job losses resulted directly from the closure) is not sufficient to explain this remarkable maneuver. The campaign exploits a mystique: 'the stuff you get in Ireland,' received opinion has it, is the original, *echt*, ineffably superior stout. What goes on behind the walls of the Dublin plant is perceived not merely as large-scale systematized production, but as something romantic and almost magical.

There is a tension here. The history of brewery industrialization is one of highly-disciplined mensuration, physical and chemical analysis, synthesis and replication; yet to accept the mystique associated with a product or process is to deny that it is reducible to straightforward parts, or recapturable by outside means. Guinness, arguably the last great producer of dark beers in Britain or Ireland, is also the last inheritor of a venerable rhetorical mechanism for parlaying such industrial production into a carefully-situated 'specialness.' The mechanism originated with the emergence of porter, the antecedent style to stout – not in Dublin, but in the

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London of the eighteenth century. London's self-consciously 'great' porter brewers carefully fostered a sense of awe around their unprecedented sites and output records, to define their product as exceptional.

The idea of porter as an *invention* played a major supporting role in this process. Numerous popular accounts present the arrival of porter as a distinct episode, tied to a precisely-nominated date (usually 1722), location, inventor and purpose. The standard scholarly account, Peter Mathias' 1959 economic survey *The Brewing Industry in England, 1700–1830*, queries this convenient mythology but retains porter as a discrete discovery, similar to 'coke-smelted iron, mule-spun muslin in textiles or "pressed-ware" in pottery,' directly responsible (albeit by happenstance) for tremendous production concentration, and hence for the enclosure of much of the trade by a few exceptionally well-capitalized producers.[1] Mathias' account has endured on account of its monumental scale and comprehensiveness, extending far beyond traditional economic concerns, and indeed his framing technical point undoubtedly holds: the properties of London porter peculiarly suited it to large-scale methods.

My account dissents from this picture, however, in presenting the 'invention' of the product as in reality a long drawn-out process of revision to consensus understandings, co-extensive with the gradual industrialization and capitalization of the field. Here we may consider the distinction often drawn between *invention* and the subsequent act of *innovation*, or application and development of inventions towards practical ends.[2] The dichotomy carries the danger of establishing 'invention' as a ring-fenced arena in which asocial and ahistorical creation accounts may survive: while innovations may be governed by fiscal and structural factors amenable to analysis, the underlying inventions are supposed to occur stochastically as 'flashes of inspiration.'[3] We should rather be careful to assess the origins, development and potential uses of 'invention stories.' The codification of porter as a revolutionary invention was retrospective, and served the interests of its established major producers by displaying the drink as local, unique, and designed to serve consumers' interests.

I begin by querying the need to presume any discontinuity in production scales: the sketchy surviving evidence pre-1750 implies a conspicuous, yet continuous rise among several urban brewers from around 1700 or earlier. Similarly, we find no contemporary evidence suggestive of a new-invented style. Rather, it seems, the control and storage of a customary product were gradually modified, to the benefit of the greatest brewers, over several decades. I next consider the mystique, grounded in place and scale, which protected the porter market in the hands of its established suppliers; and go on to record how gentlemanly interest in its unique and privileged status led to the retro-fitting of an increasingly specific origin story, so reifying the invention. The anachronistic conception of porter/stout as anomalous 'black stuff' in a world of pale beers, and the legend's migration to Dublin, are merely later stages in this long-running process.

Liquid assets: breweries, social entry and capital

At the beginning of the eighteenth century, a consensus distinction was in place between England's 'brewing victuallers,' public houses brewing on-site for their customers' consumption, and larger 'common brewers' supplying those victuallers who did not brew for themselves. One commentator in 1696 further distinguishes between 'small' and 'great' scales of operation among the common brewers.[4] The very greatest were mostly to be found in London: beer was unprofitable to carry overland, and while some provincial towns with good water links developed substantial export trades, the capital's brewers had the advantage of a uniquely dense local market.

Mathias states that the period before 1720 saw only 'hesitant,' if quickening, relative growth among these great breweries, in contrast to the rapid surge to industrial-scale prominence, for a handful of producers, which followed the invention of porter.[5] Yet there is little firm evidence either for or against this division. Scales of operation are hard to judge without quantitative evidence of the relative outputs of individual breweries, usually based on the returns of Excise: these figures survive only from 1748, and are patchy until the 1770s.

Certainly, prior to 1720, the London brewing trade had conspicuous leaders in social, political and manufacturing terms. Sir John Parsons (1613–1717), who brewed at St Katherine's near the Tower of London, served as alderman, member of parliament and Lord Mayor of London, in all of which roles he was followed by his son Humphrey.[6] Felix Feast of the Peacock Brewery in Whitecross Street was reckoned 'the greatest Brewer in *England*' before 1710.[7] A few well-connected families with petty rural gentry status in the Home Counties were beginning to use profits from the urban beer trade to extend their land holdings, so allowing progress up the social scale.

This strategy, because it is iconically associated with the elder Samuel Whitbread (1720–1796), is commonly assumed to date only from the 1740s. Yet it is clearly manifested before 1720 among the Calvert family, who emerged from the barley country around Ware, center of the Hertfordshire malting industry. Calverts are found in the records of the Brewers' Company in London from the seventeenth century; by 1706 a Felix Calvert was junior partner to Felix Feast (probably his distaff cousin) at the Peacock.[8] Around 1715, perhaps through the connections this rise established, another Felix Calvert married the daughter of Josias Nicolson, proprietor of the Hour Glass Brewery on Thames Street.[9] Two branches of the Calvert family thereafter controlled as separate concerns the Peacock and Hour Glass, both among London's principal breweries throughout the eighteenth century.[10] Both branches acquired country houses in the vicinity of Ware, along with substantial estates and a number of socially advantageous marriages, and were represented in parliament.

Brewers, like bankers in later years, were conspicuous in routinely continuing in commercial trade following their assimilation into landed society.[11] Large-scale 'brewers,' in fact, were understood increasingly as managers of capital. Emerging magnates such as Benjamin Truman of Brick Lane, or the Halseys of Southwark and their successors the Thrales, emulated the Parsons and Calverts by pouring the proceeds of the trade into expansion. Samuel Whitbread, significantly, had no brewing heritage: his family bound him, at the age of 16, to a brewery apprenticeship understood simply as a valuable mercantile opening. Drawing on well-capitalized connections, he bought his first brewery in 1742 and followed the established path with remarkable success. Leadership of the trade, estates in Hertfordshire and Bedfordshire, a parliamentary seat and marriage to the daughter of an earl came not with the passage of generations, but to Whitbread himself.[12]

It is difficult to gauge how the size of the trade underlying these concerns grew with their owners' capitalization and status. A sense that the 'great' brewers' scale was prodigious was, however, well-established by the late seventeenth century, when the city brewers' tuns are recorded as 'extraordinary large.'[13] One guidebook of the 1710s notes that

> … at St. *Catharine*'s, the *Brewhouse*, and *Store-houses* of Sir *John Parsons*, are not unworthy of a Strangers View, there being one Vessel in the latter, which containeth 155 Barrels of Beer.[14]

In March 1720 this brewery, which had passed to Humphrey Parsons, was destroyed by a devastating fire that also demolished the warehouses of several other brewers, including Josias Nicolson of the Hour Glass. Parsons and Nicolson each petitioned for reimbursement of duty paid on over 1000 quarters of malt lost to the flames.[15] While the 'length' (volume of beer) drawn from a quarter of malt varied considerably, one computation suggests this as sufficient for at least 1500 barrels (approaching 400,000 pints) of 'common brown Ale.'[16] These may, of course, have been long-term stores; but, given the demonstrated risk of the location, it is at least plausible that such volumes were turned over within weeks, if not days. If so, neither site's scale or production practices need necessarily have changed drastically by 1748, when surviving annual output figures show 39,000 barrels for Parsons' rebuilt site and 55,700 for the Hour Glass, now in Calvert hands and leading the trade.[17]

Probably by this point, a capital barrier was rising to protect those brewing on the scale of the Calverts and Parsons from smaller and provincial competitors. Only the best-connected interlopers could grow to oppose them: Whitbread's rise to the head of the trade, accomplished around 1776, was decidedly unusual. In concert, across the first half of the eighteenth century, the great brewers keenly embraced technical changes which redefined the staple product, leading it to be identified almost exclusively with large production scales.

The identity of porter and the shift to storage

The name 'porter' arose in the early eighteenth century. Notwithstanding some spurious etymologies found in popular literature, it is evidently a contraction of 'porter's ale' or 'porter's beer,' suggesting the drink's popularity among the laboring classes: 'drunk as a Porter' was apparently an established simile.[18] 'Porter's ale' is found in print as early as 1716, and 'porter' unaccompanied from 1721.[19] Sources around these dates, however, tell us nothing about the nature of the drink. Few texts of any kind discussed brewing in detail; brewers, following the conventions of the craft 'mystery,' were disinclined to describe their practices in print before the 1760s.

Our best early source is the *London and Country Brewer*, published anonymously between 1734 and 1740 by a Hertfordshire gentleman-farmer, William Ellis, who had at some point gained experience in London as executor to a brewing uncle's will.[20] From this and later sources it seems certain that the name was not coined for any new product, but emerged as a nickname for an established local brown beer. Ellis does not introduce it until the work's third part of 1738, with a recipe for 'Brewing Butt-Beer, called Porter'; in later collected editions, the index entries for 'Porter' refer to pages on which brown butt-beer appears but the actual term 'Porter' does not.[21] The synonym is confirmed by newspaper advertisements of the 1740s; even in 1768 a manual describes 'London Brown Beer, under the Name of Porter.'[22]

The name 'butt-beer' implies maturation as a defining factor. A butt was a large cask, of three standard barrels' volume, intended for storage rather than transportation.[23] Oliver MacDonagh, in a 1964 study, surmises that the drink's characteristics were an especially large quantity of hops, a period of maturation in the butt, and a grist of high-dried brown malt, a specialty of the Hertfordshire maltsters who supplied the London trade, giving it a brown color and a peculiar flavor often called smoky or 'empyreumatic.'[24] These features would have reinforced each other: a high hop rate would preserve the product during its storage, while age softened the harshness of both the hops and the high-dried malt, giving the beer a full body and a characteristic, agreeably acidic taste, commonly described as 'stale' and distinct from undesirable sourness.[25]

Brown butt-beer, then, was a robust product. According to Ellis, it lent itself to large-scale production, which gave the brewer 'less charge and trouble by means of his more convenient Utensils.'[26] Being well-hopped, it was also greatly superior to the small-scale brewers' ale, kept in small casks, which was 'loaded with the pernicious Particles of great Quantities of Yeast.' The resulting acidity might bring on 'a sudden hardness and staleness of the Ale, which to preserve in its mild Aley Taste, will not admit of any great Quantity of Hops,' meaning that the small brewers could not brew in the warmer months, when the porter brewers dominated. Owing to these advantages, records Ellis, 'the common [brewers'] Butt-beer is at this time in greater Reputation than ever in *London*, and the Home-brew'd Drinks out of Credit; because the first is better cured in its Brewing, in its Quantity, in its Cask, and in its Age … .'[27] Victuallers brewing for their own public houses were excluded from porter production by the nature of the product, and their trade was passing steadily to the common brewers.

Beyond Ellis' works, little informed discussion of changes in production is found until the late 1750s, when controversy over rises in the price of beer spawned a number of defensive publications, including *Some Account of the Rise, Progress and Present State of the Brewery* (1757) and three letters to the *London Chronicle* of 1760–1761 signed in the name of 'Obadiah Poundage,' ostensibly an 86-year-old clerk acting for one of the great London breweries.[28] A more detailed account drawing on both these sources appears in the writings of the theoretically-inclined brewer Michael Combrune, best known as a key proponent of brewery thermometry.[29]

Combrune had worked in the London brewery, but by the mid-1740s owned a brewhouse in Hampstead, close to London but outside the Bills of Mortality and therefore subject to the distinct taxation regime of the 'country' trade: the advantages of the 'town' brewers (including the greatest common brewers) attracted perennial protests in this period. Though he made some porter at Hampstead, Combrune was principally an ale-brewer, operating on a relatively small scale.[30] In 1762 and 1767 he prepared fair copies of a manuscript history of the trade, not so far surveyed in the secondary literature. Combrune indicates that the shift to storage was of specific benefit to those common brewers with the greatest premises and capital.

In the reign of Queen Anne (1702–1714), he notes, in an elaboration of the Poundage account, 'the lenders' whose funds were supporting a crippling war prudently drew closer to the seat of government, taking up residence in London. Habituated to rural house-brewing, the new urban gentry created a demand for strong pale beer. The particular attraction of this beer was that it became 'spontaneously transparent;' the established London brown-beer brewers sought to emulate this property by longer ageing, which required more hops and more storage – both tending to raise the cost to the brewer or publican. From this position, the trade underwent a significant change. '[S]ome Brewers' decided that brown beer kept 'its proper time,' and vended at threepence a pot, would be preferred by the public to established drinks:

> the brewer became more zealous to support its reputation, for which reasons he used more hops, and enlarged the publican's stocks so that what used to be drank in 1710 at the age of 4 or 6 weeks, before 1722 at 4 or 5 months, now did not come into sail [*sic*] under 10 or 12 months.[31]

Public awareness of the availability of 'bright' (i.e. transparent) and 'mellow' drink, on Combrune's account, made it increasingly unviable to produce anything else. It also exacerbated a search for technical improvement that led some brewers to adopt the thermometer around 1740. I have elsewhere discussed Combrune's efforts, under the influence of Boerhaavian chemical theory, to promote the use of thermometers in regulating the malting, mashing and fermentation processes. The spread of this approach, however, can only be reliably traced from around the time of Combrune's 1758 publication on the subject; the principal identified technical change of the earlier period is the shift to storage.[32]

With long storage the norm, beer became an investment commodity: 'Obadiah Poundage' notes the emergence of a 'set of moneyed people' who would purchase butts of porter to be laid down and eventually sold back to the publicans at a considerable profit.[33] John Tuck, writing a century later of the former custom, suggests that 'not only did the respectable publican have his own cellar well filled, but every vault and cellar that could be appropriated, was hired for the purpose, for which was paid one shilling per butt per annum.'[34] The greatest stocks of beer, however, were unsurprisingly amassed by the great brewers themselves.

Not only storage space but the butts themselves tied up capital. In 1743 Benjamin Truman, the great brewer of Brick Lane, told a Commons committee that the number of vessels in use had risen tenfold since the mild beer days, and that a butt was worth one-third the value of its contents; he added that 'strong Beer' was frequently kept for two years.[35] As the lag between investment and return increased, and the brewers were simultaneously forced to extend more credit to increasingly discerning customers, Combrune estimated that the 'Stock of money' needed in brewing was over four times higher than before this technical shift began.[36]

The result, says Combrune, was a desperate drive to reduce use of manual labor, ever-fiercer competition, and the rise of adulterative practices that fueled customer wariness and dissatisfaction.[37] Unsurprisingly, however, this shift affected the brewers unequally: in damaging those who lacked capitalization, it brought differential benefits to those who possessed it in abundance. While accounts from inside the brewery uniformly portray the brewers as hapless victims of a change in public taste, those brewing on the scale of Parsons, Truman or the Calverts arguably had good reason to promote the change. This consideration is reinforced when we consider the identity that crystallized around the 'new' porter, and which left it, by the 1760s, specifically associated it with the greatest brewers.

Mass-producing mystique

'[N]othing,' in the words of George Watkins, a brewery writer of the 1760s, 'has occasioned more dispute or diversity of opinions' than the true nature of London porter.[38] At the most generic level, the directions for brewing were common knowledge; yet the beers of particular localities, such as Burton and Dorchester, were held to derive unique characteristics from their materials or manufacture, with London's attracting special attention as the exclusive product of the large-scale commercial brewery, an environment largely closed to outsiders. As increased storage modified the character of porter, its flavor and appearance attracted popular curiosity, which became a resource for both the brewers and their critics.

Brewery writers increasingly commented upon this 'Mystery,' asserting their expertise by debunking stories claimed to be transmitted orally among the ignorant. The author of 1757's *Some Account of the Rise …* accounts thus for the survival of regional styles:

> Prejudice has never a firmer Hold than when it rests on Mystery. The Opinion was readily embraced, and speedily propagated, that each Sort of Drink was to be brewed but in particular Places. What was owing alone to a skilful, or, if you please, a happy Combination, was often ascribed to unknown Properties residing in the Materials used; and, though those very Materials, in the same Places, frequently produced dissimilar Effects, the Interest each Place had to secure an exclusive Trade, were Reasons.[39]

The author instead argues that brewers might use chemical techniques such as thermometry to emulate regional characteristics in any location – an approach developed the following year with Combrune's *Essay on Brewing*, which places the diagnostic use of Fahrenheit thermometers at the center of a grand chemical scheme of brewery management.[40] From the 1770s, similarly 'philosophical' brewers such as John Richardson and James Baverstock vigorously promoted schemes in which thermometry was supplemented with the hydrostatic assessment of malt sugars.[41] In this period, all such primary experimentalists worked on a small or middling scale, usually in the provinces: the natural-philosophical doctrine that a style's peculiarities could be reduced to rule and synthesized elsewhere, it seems, commanded attention only among those seeking to improve their relative standing. Samuel Whitbread, shown the hydrometer by Baverstock in 1770, retorted that he had gained his commanding position without resorting to such devices; the only 'great' brewer to show an interest was Henry Thrale, seemingly fired by a desire to steal Whitbread's lead.[42]

To the 'philosophical' brewers, locality-based protectionism was a wholly disingenuous strategy. Its most effective form, *Some Account* notes, is to invoke the peculiar qualities of the local water, 'as this could not be readily conveyed from Place to Place.'[43] In London, a story possessing, as Mathias notes, the charm of 'the real folk-myth,' persisted that the water of the Thames had uniquely suitable properties for porter-brewing (a claim echoed for the 'holy well' of Guinness's

Dublin site).[44] In fact, as was repeatedly pointed out in topographic literature, the major brewers rarely drew from the filthy Thames, preferring the New River or their own wells.[45] The Thames myth could not have borne casual investigation in the eighteenth century: while some great breweries lay on or near the river, others equally significant to the drink's general reputation plainly did not.[46]

The mystique, however, could be located elsewhere: one visible feature common to all these producers was the scale of activity. Comparing Rocque's and Horwood's London maps of 1746 and 1799 demonstrates tremendous physical growth of such breweries as Whitbread, Truman, Parsons/Goodwyn and Thrale/Barclay Perkins, which acquired piecemeal and systematically cleared the streets surrounding the original brewhouses. Brewing also involved some of the largest apparatus seen in any industrial activity around the capital, and was tremendously attractive to authors of topographic surveys with curiosity as a prime consideration. We have already noted a reputation for prodigiously-sized plant before 1700;[47] to Thomas Pennant, in 1790, the very sight of a great brewhouse displayed 'a magnificence unspeakable.'[48] The *Picture of London* for 1802 remarks on the astonishing scale of Whitbread's, then the greatest brewery in London, and its many technical advances.[49]

Most accounts emphasized the systematically organized modes of transmission, of various kinds – pipework, conveyors, hoists, the Archimedean screw, teams of vast horses and of laboring porters – which grew alongside these massively extended structures. Brewing operations at Whitbread's, and probably elsewhere, were already automated by transmission from a central wheel (driven by horses) prior to the introduction of the steam engine, which from the mid 1780s swiftly appeared in almost every major London brewery. Accounts focused on awesome scale, frenetic growth and the redefinition of the urban landscape persisted well into the nineteenth century.[50]

As a result, some accounts suggested that a large scale was in its own right essential: that is, that the great brewers' size did not merely give them the advantages of economy, concentration and standardization, but positively contributed to the unique taste – probably through some chemical action particular to bulk storage. The *London and Country Brewer* already suggests as much in commenting that 'the greater the Body, the more is its united Power in receiving and discharging.'[51] Watkins, instructing the private brewer in porter-brewing 30 years later, claims that small-scale production is possible since the chief determinant is the type of malt used,[52] but nonetheless adds that beer produced to his recipe

> tho' real porter, is [not] entirely equal to the finest that is made at public brew-houses … which is principally owing to the great quantity brewed together, and in a great measure also to the conveniences of those brew-houses.[53]

This belief was less easily refuted than the Thames myth. To the major brewers, it was a useful protective against smaller, especially provincial entrants to the porter market, who by producing beer 'after the manner of that made in London' might strive to undercut them.[54] Moreover, it worked against the alternative insinuation that the 'secret' of porter lay in dangerous drugs. The supposition of chemical 'sophistication' in common brewing (most often invoking the toxic narcotic, *cocculus indicus*) swirled around the newspapers and popular literature from at least the 1720s, intensifying as the brewers' profit margins declined.[55]

With bulk storage identified as the crucial 'ingredient,' vat size – not total storage capacity, but the volumes of individual vessels – came to be taken as the prime indicator of quality, and hence the chief source of pride among the London brewers. We have noted Parsons' 155-barrel vat as prodigious in 1710; Truman's gyle-book for 1812–1813 lists over sixty vats, with volumes ranging from 500 to over 1700 barrels.[56] Even these pale beside the several gargantuan vessels constructed during a sustained period of public one-upmanship in the late eighteenth century: most popular histories of brewing describe this process culminating in the erection by Richard Meux, in 1795, of a 20,000-barrel vessel (5.8 million pints, over 3000 cubic meters.)[57]

Such magnificence, of course, relied on a degree of capitalization which further reinforced the separateness and impenetrability of the porter trade, as Mathias' work amply demonstrates. To develop a small common brewhouse of the kind found in provincial towns, which might supply a dozen houses or so, was not beyond the reach of a single investor: successful brewing victuallers, by taking on the supply of neighboring pubs, often rose to this position.[58] By 1760, however, porter (or, as popularly perceived, 'true' porter) could only be produced in a major brewery, such as could only be established with significant commitment from exceedingly well-capitalized partners.

We might reasonably ask why the capitalist brewers did not simply build up, by purchase, diffused networks of traditionally sized brewhouses. Their product had to be dispersed to pubs and remote customers anyway, rendering effective standardization impossible; the economies of centralized production had to be offset against the capital risk in building enormous pieces of equipment, sometimes to untested plans. The ever-present Excise, as Will Ashworth has recently noted, played a role in fostering concentration: the Commissioners found it far easier to survey a smaller number of larger sites, and government unquestionably manipulated the incentive system to get as much of the trade as possible into the greatest brewers' hands.[59] Nonetheless, the rhetorical connotations of the publicly visible 'great brewhouse' and its equipment played an equally valuable role in guaranteeing the perceived quality, and ultimately the very validity, of the porter it produced.

So effective was the self-presentation of the major breweries, it has often been assumed that only the greatest could, or did, produce porter at all. In a parliamentary investigation of 1818, when free-traders alleged a price cartel and adulterative practices among the largest brewers, a group of eleven – all porter-brewers – is repeatedly singled out as a class self-consciously apart.[60] Yet this degree of concentration had been established only around 1813, following the merger of the two Calverts and a rash of takeovers.[61] Earlier production figures show no clear dividing-point between a few widely spaced leaders and a dozen or more middle-ranking breweries; moreover, even in 1817 the supposed 'great eleven' showed a huge variation in output, from Barclay Perkins' 281,000 barrels to less than 26,000 for Cocks and Campbell. Barely noticed, meanwhile, smaller porter-brewers survived outside the charmed circle, led by the old-established firm of Dickenson on 8420 barrels.[62]

Rather, the 'great eleven' was a construct of convenience, useful mainly in deflecting adulteration rumors stoked by the anti-monopolists. In the 1818 investigation, the major brewers' representatives (some of whom, as members of parliament, sat on the committee itself) worked, not to negate this charge, but to focus it upon their smaller and provincial competitors.[63] Friedrich Accum's influential *Treatise on Adulterations* of 1820, which relied heavily on the published minutes of the investigation, spoke in alarmist tones of the widespread use of toxic additives while pragmatically acquitting all the 'eleven great porter brewers' of any blame.[64]

Physically, then, the reference of the term 'porter' had shifted from a standard brown beer to a drink requiring long storage, while rhetorically it had become associated with large production scales and, ultimately, the preserve of a closed culture of large-scale production. As previously noted, the separateness and the mystique of London porter began to be established around 1760; and it is from that date that a public curiosity over the 'secret' of the drink begins to make its presence felt in contemporary literature. As the breweries grew, and the mystique intensified, the search for an account of the drink and the application of new information (sometimes on an almost haphazard basis) to supply the want increased.

Porter becomes an invention

Today, most popular literature presents a remarkably specific story. Porter, we are told, was invented around 1722 or 1730 by Ralph Harwood, a common brewer of Shoreditch, East London, as an emulation of 'three-threads,' a then-popular mixture of three styles of beer then available, in order to save the trouble of drawing from three different casks at the point of sale. This story, general before Mathias' study, was severely problematized by his investigations.[65] In subsequent accounts it has been dismissed outright;[66] my concern is not its validity but the nature of its development and what this may tell us about the rhetorical value of invention and place.

As we have seen, the name 'porter' for brown beer predates 1722. Ellis, in the 1740s, makes no mention of a specific technical innovation accompanying the coinage. This association first appears in the initial 'Obadiah Poundage' letter of 1760, and seems to have been disseminated exclusively through a reprinting in the *Gentleman's Magazine* a few weeks after first publication. The *Gentleman's* reproduced, verbatim and unsigned, roughly one-third of the original, concluding with the brief account of porter's origins and thus modifying a polemic supporting rises in the price of beer into a technical history.[67] The piece thus became suitable to serve the ends of curiosity; its appearance, duly indexed, in such a standard resource for scissors-and-paste journalism as the *Gentleman's* ensured its survival and proliferation into other accounts.

So too did its message. Whereas Combrune, a small-scale ale-brewer, modified the account to emphasize the ever-increasing storage times (and hence the widening gap between those with capital and those without), the Poundage original presents porter, kept 'its proper time,' as an inexpensive alternative to established 'extremes' including the mixture of mild and stale beer (thus implying that its storage time was actually intermediate.) The 'new' drink is thus characterized as an ingenious technical adaptation designed for the customer's benefit. This undoubtedly fitted the needs of Poundage's great-brewery masters, and of subsequent legend-building.

The question of porter's origins was clearly intriguing to a gentlemanly audience (whether porter-drinkers or not). A correspondent to the *Gentleman's* of 1790 asks: 'When was the popular and wholesome beverage, called *porter*, first introduced, and who invented it? and why is such a blessing as the secret of making it permitted to be engrossed by a few, and the benefit confined almost solely to the metropolis?'[68] Answers to the first part of this question were nominated in a short piece in the *Monthly Magazine* for February 1802:

> The wholesome and excellent beverage of porter obtained its name about the year 1730 … [formerly] the malt-liquors in general use were *ale*, *beer*, and *twopenny*, and it was customary for the drinkers of malt-liquor to call for a pint or tankard of *half-and-half*, i.e. a half of ale and half of beer, a half of ale and half of twopenny, or a half of beer and half of twopenny. In course of time it also became the practice to call for a pint or tankard of *three threads*, meaning a third of ale, beer, and twopenny; and thus the publican had the trouble to go to three casks, and turn three cocks for a pint of liquor. To avoid this trouble and waste, a brewer, of the name of Harwood, conceived the idea of making a liquor which should partake of the united flavours of *ale*, *beer*, and *twopenny*. He did so and succeeded, calling it *entire* or *entire butt*, meaning that it was drawn entirely from one cask or butt; and as it was a very hearty nourishing liquor, it was very suitable for *porters* and other working people. Hence it obtained its name of *porter*.[69]

This text shares a narrative structure with the root Poundage/*Gentleman's* account, but several changes suggest the editorial hand of a journalistically capable outsider. '[T]hree-threads' is helpfully glossed, and the handling of 'entire' (slightly garbled in the original) clarified; yet Cornell has noted that the proposed etymology for 'entire' probably results from a misunderstanding,[70] while the recipe '*ale*, *beer* and *twopenny*' looks like guesswork ('twopenny' then referring to pale ale) and the suggestion that mild and stale forms of the same beer were blended has been lost.

The installation of 'Harwood' seems likewise to be due to hackwork rather than internal brewery lore. Ralph Harwood was a brewer in Shoreditch from 1703 or earlier, in partnership by 1736 with his younger brother James; Ralph died in 1749, James in 1762.[71] Their production was significant, but there is no reason to suppose it was ever 'great;' in the returns of 1760, James Harwood's output is ranked the twentieth in London, being less than a quarter of Calvert's at the Peacock. The brewhouse endured, passing ultimately to the Pryor brothers, whose business was absorbed into Truman's in 1816, but was never conspicuous in size or output.[72] James Harwood's brief obituary in the *London Chronicle*, however, describes him as 'an eminent Brewer in Shoreditch, and the first that brought porter to perfection.'[73]

Perhaps inspired by this alone, the obscure Shoreditch elegist and shorthand instructor Thomas Gutteridge (*floreat* 1740–1762?) penned a memorable, if aesthetically unimpressive tribute: 'Harwood, my townsman, he invented first/ Porter, to rival wine, and quench the thirst … .' The first known surviving reproduction of this elegy is in a topographic survey of Shoreditch, 'by a Parishioner,' published in the *Gentleman's Magazine* for 1788.[74] The index to this volume refers to '*Harwood*, Ralph, the first Porter-brewer in London,' and we may assume it was from here that the origin story took root.[75]

Across the nineteenth century, numerous accounts drew directly from the 1760 or 1802 texts, occasionally evidencing awareness of both.[76] Many writers examined multiple sources, but the pattern of borrowing was so endemic as to be mistaken for a consensus of independent authorities.[77] Increasing specificity was a feature of the legend's mutation: later versions add that Harwood's brewhouse was named the Bell, or that the new beer 'was first retailed at the Blue Last, Curtain-road.'[78] The tale mutates, too, in the interests of remaining comprehensible to a contemporary audience. Although the 'porters' for whom the drink is named were, as Cornell points out, the licensed fetchers and loaders of London's streets and waterfront, later versions specify market porters or even, with obvious anachronism, railway porters.[79]

The proliferation of sometimes spurious details fed a public desire for more information about the invention of porter proceeding from the assumption that this 'invention' must have been a revolutionary act. The invention is seen, furthermore, to have been instituted to aid the publicans in gratifying their customer's desires; and the nomination of Harwood gives no grounds for supposing self-interest on the inventor's part, as his invention was carried to greater success by others.

Yet a crucially different story emerges from the unpublished writings of Michael Combrune. Though without brewery ancestry, and too young to recall the developments of the 1720s directly, Combrune must have based his modifications to the root account on the recollections of those around him. In the 1767 manuscript Combrune moves the salient date to 1726, and glosses with a dagger (as if acting on information received after the text's compilation) the words 'some brewers' to indicate specific responsibility. Harwood is nowhere to be seen: Combrune instead nominates 'Humphry Parsons Esqr. of Wapping' and 'Messrs. Nicholson [*sic*] & Tate of Thames Street.'[80] We have met these two firms as the greatest losers of malt in the fire of 1720; both had among the highest outputs in the recorded figures of the 1740s, and both (as Goodwyn and Calvert respectively) survived into the 'great eleven' of 1817.

If there *was* any significant change in brown-beer practice in the 1720s, then on Combrune's account it consisted in a shift to much longer storage times, pressed by two leaders of the trade. Given their scale, this shift would almost certainly have gone hand-in-hand with the building of large vats to replace the enormous numbers of butts required. While Ralph Harwood's 'invention' is the stuff of heroic legend, a general move to vatting led by Parsons and Nicolson/Calvert is entirely plausible. Surviving Calvert records are poor, but we have noted Sir John Parsons as owning a 155-barrel vat in the 1710s; Humphrey, his son, installed vats of 1500 barrels' capacity in 1736.[81]

Samuel Whitbread examined Parsons' vatting arrangements in some detail when planning his own storage, which ultimately included the innovation of huge stone-lined cisterns to occupy the space under the vaults beneath the main tun-room.[82] If there was any 'invention' creating a degree of production discontinuity, it lies in the introduction of the vat.[83] From this planned act of concentration, rather than from some happenstance novelty, derives the economic and rhetorical dominance of the great brewers.

Distance lends enchantment

The porter of the 1720s was clearly not equivalent, in taste or cultural meaning, to that of the 1760s, when curiosity about the drink's origins is first evident. Its nature changed yet more significantly into the nineteenth century. The curiosity value of porter only increased with the resurgence of drinks sold under the name of 'ale,' which were perceived to descend from the pre-industrial product in a way that porter did not.

A possible defining quality absent from all the early porter accounts is color. Mathias in 1959, still bound by the assumption of a discontinuity, considered porter to have been 'evidently a black, thick beer' from the outset, while both he and MacDonagh gave unusually high-dried malts (which would have produced a darker beer than hitherto) a privileged role.[84] There is no primary evidence to suggest, however, that early porter was anything other than a brown beer among the established browns and pales (Ellis refers at one point to 'blood-red Drink').[85] Porter's identity became couched in terms of its coloration only much later on, as two related processes took hold: the industrialization of ale-production, and the technical assimilation of porter to ale.

The increasing inculcation of natural-philosophical and engineering knowledge into the brewery from around 1760 brought an increasing concern with the management of the bulk product, and in particular with its thermometric properties.[86] Investigations took place among the great porter-brewers themselves, but also among smaller brewers in the London area, such as Combrune; and, moreover, among the provincial ale-brewers, in centers such as Burton-on-Trent, who controlled much of the export trade. By the first decade of the nineteenth century, attemperation (thermometrically-determined temperature regulation by means of submerged pipes) was being introduced in primary fermentation and maturation; in conjunction with new fermentation systems, it was found to allow ale, with pale malts and relatively few hops, to be managed on the same scale as the more robust porter.[87]

Simultaneously, in the porter brewery, the parallel quantitative project of saccharometry (gravimetric measurement of the potential fermentable yield from malt samples) was demonstrating the greater economy to be had in using the pale malts associated with ale production in place of their traditional Hertfordshire browns. With attemperation now available, porter became increasingly ale-like: besides often losing its characteristic brown-malt tang, it spent less time in the vat and correspondingly contained less of the preserving hops. To maintain the dark coloring – its most obvious point of distinction from ale – small quantities of burnt sugar or malt, or, later, a very highly-dried 'patent malt,' were added.[88] During the parliamentary enquiries of the 1810s the 'great' porter brewers, following precisely the strategy adopted in the Poundage account, presented this shift to mildness as the consequence of changed customer taste.[89]

We may instead suppose that the 'great' brewers, now controlling almost all the London trade and clearly functioning as an oligopoly, manipulated the conventions of porter-brewing in their own interests: dealing principally in new beer released the tremendous capital hitherto tied up in the vats.[90] At the same time, however, it dismantled a key element of the capital and rhetorical barrier protecting them from rising competition: with porter resembling ale, ale-brewers encroached on the porter-brewers' dominance. In the 1817 figures referred to above, the output of the leading ale-brewer, Stretton, almost matches that of Cocks and Campbell (smallest of the self-styled 'great').[91] London ale-brewers' attentions switched increasingly from the traditional export trade to the local markets, with two (Charrington and Mann) reportedly breaking into a new London 'great twelve.'[92]

Developments in the capital were overshadowed, however, by the unprecedented expansion of ale-producing industry in Burton and other provincial centers. By mid-century, the lighter drink was approaching national ascendancy and most of the London porter-brewers were producing some ale themselves. Ironically, it was they who now found themselves outsiders to a market protected by local techniques and reputations: accordingly they turned to reductive techniques of analysis and synthesis, dosing their water with mineral salts in an attempt to replicate that of Burton.[93]

It was probably only in this climate that porter became, as a matter of general expectation, jet-black. The new patent malt allowed the color of the drink to be controlled very precisely, and to be taken to a higher level than would be possible with brown malt alone. Blackness, though perhaps a novelty, asserted the identity of the drink (as distinct from ale) at a time when its more traditional characteristics were being eroded. In the 1886 antiquarian survey *Curiosities of Ale and Beer*, the anachronistic telescoping involved in the 'invention of porter' is seen to have embraced a discontinuity obvious to all: the creation of a black drink among pales. Beside the Harwood account, *Curiosities*' treatment relates a myth whereby an obvious principle of blackness (here, an unfortunate 'negro' brewery servant) is mistakenly boiled in the copper to produce the first porter.[94]

This rhetoric of difference ultimately allowed porter, from having been the staple drink of London, to attain a specifically *non-English* character. The first Arthur Guinness had acquired a small, possibly disused brewhouse at St James's Gate in 1759, initially as an ale-brewer.[95] Lynch and Vaizey, in their economic account, note that London Porter was imported into Ireland in increasing volumes across the 1760s; from 1775, however, the Irish Parliament is seen to act increasingly to favor the interests of local brewers, culminating in decisive legislation of 1795 that was to ensure a decisive and long-standing advantage over the English brewery.[96] Like other Irish brewers, Guinness moved increasingly into porter production; the firm acquired a steam-engine in 1808, and was the greatest brewer in Dublin by 1810, expanding rapidly thereafter.[97]

Only after 1830, however, did Guinness become a major exporter to England's sea-ports, building innovative licensing deals and securing a large trade in the undeveloped category of 'double stout' (the name 'stout' simply referred to a strong variety of the style, originating as 'stout porter'). An extraordinary sevenfold growth in output over two decades to 1875 saw Guinness outstrip the London and Burton behemoths to become 'the largest and most renowned brewery in Europe.'[98] This operation traded on its professed simplicity, reliability, and the exceptional (anomalous, but also superlative) nature of the product.[99]

As porter went into terminal decline in mainland Britain around the time of the First World War, and as Guinness steadily bought out its competitors to dominate the brewing market of independent Ireland, it achieved a defining dominance of the porter style – or rather of stout, as strengths fell and the terminology of the premium product filtered down to embrace the staple. Whereas most national-scale brewing concerns emerged as federations of geographically dispersed sites trading on local credibility, Guinness' stylistic dominance permitted a unique concentration of production. As the only dark beer commonly sold in much of its market, moreover, the product was able to gain ubiquity while remaining somehow set apart.

Here, then, was the final stage in the telescoped invention of porter/stout, as the origin story migrated altogether across the Irish Sea: as memories of the porter era faded in British minds, black beer and Irishness became intertwined.[100] In the 1930s, however, Ireland's increasing assertion of its independence and Britain's imposition of heavy import duties led to the establishment of Park Royal (itself a site of prodigiously concentrated production, by contemporary standards, for most of its existence) to supply the British market from within.[101] The operational practicalities of large-scale production and distribution had fallen, for a time, into tension with the defining mythology: when changing priorities dictated a return to Dublin in 2005, it is hardly surprising that the toucans were given their moment of homecoming triumph. How the marketers will respond if, as has been mooted, those same practicalities in turn dictate that St James's Gate be abandoned for a greenfield site, remains to be seen.[102]

Conclusion

London porter was, by the early nineteenth century, an immensely successful product whose accumulated characteristics exemplified an unprecedented change in production scale. It did not, however, spring fully formed from any individual brain or brewhouse as a scientifically directed invention destined to conquer the inferior techniques of tradition. (This solves an oft-posed riddle in the 'heroic' account, as to why the 'inventor' Harwood did not rise to prominence from his small common brewhouse in Shoreditch. Had porter-brewing been at any stage a wholly new brewing process, it *might* have been protected by the inventor with a view to a monopolist's advantage, as were, for instance, patents filed for production of beer concentrates in the 1770s.)[103]

What in fact took place was a long-term modification of the antique mother process, not always evident to consumers or even to producers, directed towards no specific technical goal but tending often to serve the ends of the best-capitalized and most intensive producers. To consider the case as simply economically determined, however, would be to neglect the considerable agency of mystique, mythology and origin stories in determining a product's identity and credibility. If production is on a large scale then the product, by definition, is in danger of losing any 'exceptional' status it may command among consumers; if production is seen to be systematic or grounded in reductive techniques, the producer lies open to the charge of betraying craftsmanship. The success of the dark-beer brewers depended partly on their ability to promote spectacular sites and mechanisms and a distinct invented product to square the circle, defining large-scale, systematic production as a 'secret ingredient' in its own right.

Notes

1. Mathias, *Brewing Industry*, 12–16, on 13.
2. Hughes, 'Evolution', 57–58; Inkster, *Science and Technology*, 8–9. For the origins of the divergence see Beales, *Industrial Revolution*, 13.
3. Berg, *Age of Manufactures*, 171–72.
4. Burnaby, *Essay*, 33–35.
5. Mathias, *Brewing Industry*, 6–11, on 6.
6. Welch, 'Humphrey Parsons.'
7. *Remarks on the Horrible Oppressions*, 46, 52 (italics in original).
8. Calvert and Feast: *ibid*. Calverts in the Worshipful Company of Brewers: Webb, *London Livery Company*, vols. 1 and 36. Calvert genealogy: Stirnet Genealogy, available at http://www.stirnet.com/HTML/genie/british/cc4aq/calvert02.htm (accessed 28 January 2006).
9. Trade directories of the 1740s show Josias Nicolson living in Clapham, and the brewery under the name of William Calvert, Felix's brother.
10. The breweries were typically owned by several family members in partnership. The two branches kept their concerns distinct (though both intermarried with a third), however, until merger in 1810. The businesses are often distinguished by the names of John Calvert and Felix Calvert, third-cousins who headed the Peacock and Hour Glass respectively around 1760.
11. Stone and Stone, *Open Elite?*, 52.
12. Mathias, *Brewing Industry*, 260–61.
13. Lightbody, *Every Man*, 5.
14. *British Curiosities*, 50 (italics in original).
15. *Weekly Journal or Saturday's Post*, 26 March 1720, 412; *Weekly Journal or British Gazetteer*, 26 March 1720, 1562; petition of Humphrey Parsons, Middlesex Sessions of the Peace, London Metropolitan Archives (hereafter 'LMA') MJ/SP/1720/July/8; petition of Josias Nicholson and Copartners, Middlesex Sessions of the Peace, LMA MJ/SP/1720/July/6.

16. Based on [Ellis], *London and Country Brewer* (1736), 42. At this time a barrel for ale still held 32 gallons, as distinct from the 36-gallon beer barrel, which later became universal.
17. Mathias, *Brewing Industry*, 551.
18. Derivation: Slyboots, *Tavern Scuffle*, 23. Simile: Otway, *Works*, vol. 1, 248.
19. [Pope], *Further Account*, 21; [Amhurst], *Terræ-filius*, 202; Centlivre, *Artifice*, 85; and cf. *Oxford English Dictionary*, s.v. 'porter,' noun, sense 3.
20. Ellis, *Country Housewife's*, 376–77.
21. [Ellis], *London and Country Brewer* (1738), 60–61; [Ellis], *London and Country Brewer* (1742), 302, 339.
22. *Daily Advertiser*, 15 October 1742, quoted in *Notes and Queries*, 25 February 1911, 143; *Leeds Mercury*, 15 May 1744, quoted in Cornell, *Beer*, 92; *Every Man*, 39.
23. [Ellis], *London and Country Brewer* (1736), 36.
24. MacDonagh, 'Origins,' 533.
25. One guide around 1800 advised publicans to 'keep your tap-tubs clean, otherwise your stale beer will become sour' (Boyle, *Publican*, 17.)
26. [Ellis], *London and Country Brewer* (1736), 43.
27. [Ellis], *London and Country Brewer* (1736), 36–37 (italics in original); cf. Smith, *Nature of Fermentation*, 12.
28. *London Chronicle*, 1 November 1760, 436–37; 22 December 1760, 603–04; 14 December 1761, 570–71.
29. The *Some Account* author signs himself 'A.B.' He seems to be a small-scale ale-brewer in the London area, promotes thermometry and standardization, regards brewing as a chemical art and admires Herman Boerhaave – all attributes matching Combrune, who is identified as the author of the work in J.R. McCulloch's *Literature of Political Economy* (1845). From comparison of the sources, however, it seems entirely possible that *Some Account* was a like-minded author's production from which Combrune borrowed selectively. Corran, in 1975, noted the existence in Guinness' Dublin archives of a manuscript copy of *Some Account* in Combrune's hand, and quotes extensively from an otherwise unknown variant of the Poundage letter found among the same papers – conceivably a draft privately communicated to Combrune (Corran, *History of Brewing*, 112–15, 131, 154, 292; and personal communication, 30 December 2002). Unfortunately these materials cannot be traced by the present Guinness archivist (Eibhlin Roche, personal communication, 9 December 2005).
30. Michael Combrune to James Best, 17 August 1762. Medway Archives and Local Studies Centre, Strood, Kent, UK, Unofficial Series Collections U0480/B874 [hereafter 'Best MSS']. For the Country Brewers' protests, see Mathias, *Brewing Industry*, 364–67.
31. Combrune, 'Historical Account,' [0033].
32. Sumner, 'Michael Combrune'; Combrune, 'Historical Account,' [0033]–[0034]. Combrune states that the thermometer, after early trials around 1740, 'was by many more persons set aside then [*sic*] employed.' The Best MSS (above, n. 30) include two brewing notebooks which demonstrate that 'Henry Goodwin of Deptford' – a Henry Goodwyn or Goodwin acquired Parsons' former brewhouse before 1784 – was routinely recording thermometric data by February 1758, probably not under Combrune's influence because a non-Fahrenheit device was used. Otherwise, no clear examples of brewery thermometry before Combrune's *Essay on Brewing* of 1758 have come to light.
33. *London Chronicle*, 1 November 1760, 436.
34. Tuck, *Private Brewer's Guide*, 6–7.
35. *Journals of the House of Commons*, vol. 24 (1741–1745): 541–42.
36. Combrune, 'Historical Account,' [0034].
37. Combrune, 'Historical Account,' [0034–0035, 0064–0065].
38. Watkins, *Compleat English Brewer*, 122.
39. *Some Account*, 6.
40. Sumner, 'Michael Combrune.'
41. Sumner, 'John Richardson.'
42. James H. Baverstock in Baverstock, *Treatises*, xiv–xviii.
43. *Some Account*, 6–7.
44. Mathias, *Brewing Industry*, 44.
45. Loch, *Essays*, vol. 1: 200–01; [Feltham], *Picture of London*, 250–51; Shannon, *Practical Treatise*, 7; Hayman, *Practical Treatise*, 38; Kirby, *Essays and Poems*, 234.
46. These included Truman on Brick Lane, and the concentration around Whitecross Street and Golden Lane which included Calvert's Peacock and, from the 1740s, Whitbread.

47. Lightbody, *Every Man*, 5.
48. Pennant, *Of London*, 279.
49. [Feltham], *Picture of London*, 250.
50. Sumner, 'Powering the Porter Brewery,' 73–74.
51. [Ellis], *London and Country Brewer* (1736), 43.
52. Watkins, *Compleat English Brewer*, 126.
53. Watkins, *Compleat English Brewer*, 122–23.
54. *Edinburgh Advertiser* (30 July 1765): 67. My thanks to John Millburn for this reference.
55. See for instance [Shaw], *Juice of the Grape*, 51–54; Slyboots, *Tavern Scuffle*, 23; Jackson, *Essay on Bread*, 32–42; Combrune, 'Historical Account,' [0050]; *Every Man His Own Brewer*, 39; *Crying Frauds*, 5; Accum, *Treatise on Adulterations*, 153–222; and cf. Bickerdyke, *Curiosities*, 369.
56. LMA B/THB/C11.
57. Such accounts probably have a common source in Bickerdyke, *Curiosities*, 372.
58. Mathias, *Brewing Industry*, 253–54.
59. Ashworth, *Customs and Excise*, 220–21.
60. *Parliamentary Papers*, 1819, vol. 5, *passim*, e.g. 16, 32.
61. *Parliamentary Papers*, 1817, vol. 7, 238.
62. *Parliamentary Papers*, 1818, vol. 14, 235–37.
63. For instance, evidence of Edward Jackson, *Parliamentary Papers*, 1819, vol. 5, 35–36; evidence of John Martineau, *ibid*., 104–05.
64. Accum, *Treatise on Adulterations*, 215–16. Cf. Sumner, 'Retailing Scandal', 37–38.
65. Mathias, *Brewing Industry*, 12–16, 413–14.
66. MacDonagh, 'Origins;' Corran, *History of Brewing*, 110–11; Cornell, *Beer*, 92–95.
67. *London Chronicle*, 1 November 1760, 436–37; *Gentleman's Magazine*, 30 (1760): 527–28, and cf. Corran, *History of Brewing*, 111–16.
68. *Gentleman's Magazine*, 60 (1790): 801, 876.
69. *Monthly Magazine and British Register*, 13(1802) 42. Italics original. The same text appeared almost simultaneously in a topographic survey put out by the *Monthly*'s publisher, Richard Phillips: [Feltham], *Picture of London*, 248–49.
70. Cornell, *Beer*, 96–99.
71. This account is based on Cornell, *Beer*, 92–95, except where otherwise indicated. The Harwoods are confirmed as brothers by Oldfield, *History*, 63.
72. 'Letter to Villebois assumed from Hanbury in 1816' (copy), LMA B/THB/H/4.
73. *London Chronicle*, 7–9 October 1762, [1].
74. *Gentleman's Magazine*, 58 (1788): 958.
75. The poem reappears in the midst of a digressive discussion on inn signs: *Gentleman's Magazine*, 89 (1819): 394.
76. Accounts proceeding from the 1760 source are Morrice, *Treatise*, 9–14; Hughson, *London*, 293–94; Tizard, *Theory and Practice*, 419–20. Those based on the 1802 source alone include Rees, *Cyclopedia*, s v 'Porter'; Paris, *Treatise*, 212 and, in paraphrase, Dodd, *Days at the Factories*, 37; Loftus, *Brewer*, 45; Yeats, *Technical History*, 235. Accum, *Treatise on the Art of Brewing*, 6–7 presents the 1802 narrative but follows the 1760 account's dating.
77. Dowell, *History of Taxation*, 62.
78. Brande, *Town and Country*, 16; Haydn, *Dictionary of Dates*, s v 'Porter.' Probably the most extensively elaborated version appears in Bickerdyke, *Curiosities*, 366–68.
79. Cornell, *Beer*, 102–03, 286.
80. Combrune, 'Historical Accompt,' 19.
81. Mathias, *Brewing Industry*, 15.
82. Spiller, 'Georgian Brewery,' 312; Mathias, *Brewing Industry*, 59–61.
83. Cf. Cornell, *Beer*, 12–13.
84. Mathias, *Brewing Industry*, 15, 413; MacDonagh, 'Origins,' 534.
85. [Ellis], *London and Country Brewer* (1738), 10.
86. Sumner, 'Early Heat Determination,' 75–77.
87. Mathias, *Brewing Industry*, 73–76; Gourvish and Wilson, *British Brewing Industry*, 56–58.
88. Mathias, *Brewing Industry*, 420–23.
89. *Parliamentary Papers*, 1817, vol. 7, 241–42; 1819, vol. 5, 95.
90. Mathias, *Brewing Industry*, 77.

91. The table-beer market, though much smaller, was dominated by the ale-brewers; we do not have figures for 1817, but the leaders of this trade such as Charrington and Kirkman each brewed 10,000 or 20,000 barrels in this period in addition to strong ale.
92. Knox, 'Development,' 48.
93. Gourvish and Wilson, *British Brewing Industry*, 41–43, 75–98.
94. Bickerdyke, *Curiosities*, 366, 369–70.
95. Lynch and Vaizey, *Guinness's Brewery*, 70–71.
96. Ibid., 52–68.
97. Ibid., 154, 80.
98. Barnard, *Noted Breweries*, vol. 1, xv (quotation); Lynch and Vaizey, *Guinness's Brewery*, 119–48.
99. Gourvish and Wilson, *British Brewing Industry*, 98–103, and cf. Lynch and Vaizey, *Guinness's Brewery*, 81, 222–23.
100. In line with what I have said about English porter, the color of Guinness's products apparently 'varied widely' before the late nineteenth century: Lynch and Vaizey, *Guinness's Brewery*, 219.
101. Dennison and MacDonagh, *Guinness 1886–1939*, 248–62; Gourvish and Wilson, *British Brewing Industry*, 338, 504.
102. Daniel McConnell, 'Last Orders for Guinness Time at St James's Gate.' *Sunday Independent* (Ireland), 17 June 2007.
103. Appleby, 'Humphrey Jackson,' 156.

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