

BOOK REVIEWS

Brewing Science, Technology and Print, 1700-1880

By Sumner, J.

**London: Pickering & Chatto and Brookfield,
Vermont**

2013, Pp. xviii + 295, £60/\$99

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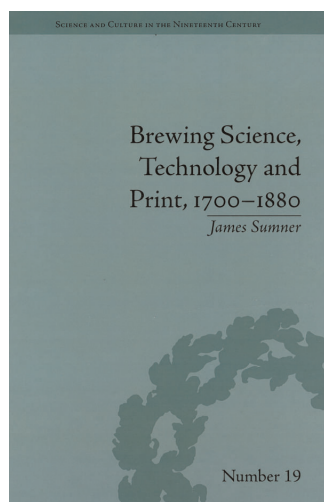
If you were a brewer in the eighteenth century and you wished to make a few bob on the side, then what better to do than write a book on the brewing arts? But there lay twin problems. Firstly there was what Sumner calls the *paradox of the trade writer*. The prospective purchaser of such a book would surely think twice when he asked himself why, if a brewer really had acquired valuable knowledge in practising his trade, he did not keep it to himself and thus flourish by applying this knowledge in his own brewery? Secondly there was the *paradox of the experiment*. In order to develop innovative procedures and theories of brewing and give the

proposed book novelty and thus be worth buying, it was necessary to experiment. But departures from established practice tested a writer's credibility and unless tangible benefits could be swiftly demonstrated brought accusations that he

was a trickster, dilettante or simply knew nothing of real brewing. The attempt to resolve these paradoxes by a wide range of authors over a period of nearly two hundred years is the focus of this splendid book.

The book is groundbreaking both in its quality and scope in addressing the history of the application of science to brewing. Sumner succeeds in putting brewing practice into the commercial, political, fiscal, social and scientific/technological context of 18th and 19th century Britain. Further, he reaches beyond brewing and examines more general questions of the interaction of science with manufacturing and sheds light on that relationship in showing how different mindsets may reach accommodation. The complexity of the interactions of the protagonists, their background, motivations, techniques, social and professional standing, prejudices, successes and failures, are all explored. This is no easy task in tackling a process with such a wide ranging scale of operation and individual practices; there are many threads to follow. If all this sounds rather heavy going then in Sumner's hands that is far from the case. His is a beautifully-written book with a lucid, well structured presentation. He demonstrates a masterly grasp of the material tempered by the odd telling phrase. Thus the book is both scholarly and entertaining. The description of the 'nostrum-mongering' chemist Humphrey Jackson FRS as 'the godfather of brewers' druggists', had me laughing out loud.

Sumner sets the scene with a review of the contemporary literature on brewing technique from the 16th to the mid 18th century, which is both comprehensive and authoritative in weaving together disparate sources. These sources include the 'curious' approach of the leisured gentleman non-commercial brewer, through limited contributions from 'virtuosi' writing about the



practical arts, to topographic surveys which described processes. This excellent survey describes and analyses the lineage, content and intent of the books, even tracing evidence of the identity of buyers of the volumes. Tellingly, the absence of contributions from common brewers is noted and astutely analysed. A feature is the masterly in depth critical dissection of the origins, content, significance and legacy of the *The London and Country Brewer* (1735-1740), the first extensive book on brewing to appear. There follows a detailed analysis of Michael Combrune's works, *An Essay on Brewing* (1758) and *The Theory and Practice of Brewing* (1762), covering the background to the publications, their context, content, significance, philosophical intent, limitations, target audience and reception. Combrune, the first published brewer to eschew anonymity, is known to brewing historians for popularising the use of the thermometer in brewing. The author demonstrates that Combrune's intent went way beyond the introduction of a measuring device; rather, inspired by somewhat outdated theories of chemistry, and prompted by the physician and author Peter Shaw, his theoretical framework required that the thermometer should rule the brewery (and the maltings). The negative response to his wider ambitions of producing a theoretical framework for brewing operations through thermometry is fully discussed, while the success of Combrune's writings in making practical use of the thermometer a matter of 'general consciousness' for brewers is demonstrated.

There follows a survey of the activities of those who followed - or at least attempted to follow - Combrune as 'philosophical instructors'. Two groups are identified. Firstly, those who placed emphasis on their credentials as operative brewers with extensive practical experience. Secondly, less numerous 'outsiders' who claimed that their knowledge of chemical principles was the true route to expertise. Despite their different starting points it is convincingly demonstrated that both groups needed to embrace both a 'commercial' and a 'philosophical' approach if they were to have a chance of success. The subtleties in the different approaches taken by individuals in the two groups is vividly illustrated. Particular attention is given to Humphrey Jackson a manufacturing chemist who was in all probability also the first consultant brewing chemist in the UK. His wider activities brought reward in his election as a Fellow of the Royal Society in 1773, but this public status did not pre-

vent the concomitant collapse of his reputation when his innovations (allegedly) had a disastrous outcome in contributing to the bankrupting of Henry Thrale's brewery in Southwark. The fall of Jackson neatly brings into the story his nemesis, John Richardson, champion of the operative brewers as instructors and master of the technique of selective publication to drum up custom leading to fee earning instruction on specifics. Richardson's (anonymous) pamphlet of 1775 cleverly mocking Jackson is tellingly described and its significance brought home to the reader. This flows into an account of Richardson's 'unashamedly commercial' combination of practice and theory which resulted in the introduction of gravimetric measurement into brewing in the 1780s. Richardson's successful tactics, centering on economic issues familiar and important to brewers, are thoughtfully explored. In passing, the almost universal 'yoking together' of Combrune and Richardson in the literature (to which this reviewer must plead guilty) is usefully debunked with regard to their intent in introducing instruments to the brewhouse. Sumner makes another important distinction between the two men: 'Combrune's advocacy of instrumentation had outlived his theories; Richardson's theories ... far outlived the instrument they had been framed to support'. Richardson's instrument being the saccharometer on which he pinned hopes of gaining a monopoly position and thus enhancing his earnings. The pre-history, claimed originality, marketing and spread, of Richardson's device, and linkage to the publication of his *Statistical Estimates*, are all clearly explained. On the vexed question of the challenges to Richardson's priority by Baverstock, Sumner magisterially concludes that Richardson 'judged the audience of brewers better than his adversary'.

The early 19th century was characterised by heightened concern over beer adulteration, which through the activities, real and imagined, of druggists and their interaction with brewers brought public fear of 'chemical beer' to the fore. The circumstances leading up to the Act of 1802 which (temporarily) made malt and hops the only allowed ingredients in beer are described, and the reaction of the brewers, the druggists and the public to the legislation analysed - including a telling cameo appearance by Humphrey Davy in the story. This is followed by an account of the consequences of Excise restrictions and ongoing public disquiet about adulteration for brewing chemistry and those involved in it, concluding

with a thoughtful and illuminating dissection of Friedrich Accum's sensational bestseller of 1820 on food and drink adulteration.

The involvement of academic chemists in the brewery also began in the early 19th century, with the noted Scottish chemist, Thomas Thomson, the first to do so 'publically and systematically'. As Sumner relates, Thomson was in a unique position in the credibility stakes through his 'disinterested' consultancy work for the Scottish and English Excise in the early 1800s. He used this experience in his entry in the *Encyclopaedia Britannica* written a couple of years prior to his appointment to the professorship in chemistry at Glasgow University in 1818. Thomson's emphasis on the results of analytical chemistry in this lengthy encyclopaedia article and rejection of prior literature by brewery insiders is thoughtfully discussed. To good effect Sumner extends this discussion to a consideration of Thomson's ignorance of the extent of the insider literature and the limitations this placed on his appreciation of the brewers' debates on such topics as the nature of malt extract and its relation to alcohol yield. As related here these debates were to mature into the groundbreaking discoveries of French academics (Persoz, Payen and Biot) regarding starch and its dissolution in the 1820s/30s. Thomson's lasting influence is seen to have been more on the organisation rather the substance of subsequent brewing treatise.

The British brewing literature grew significantly between the 1820s and the 1850s, with the treatise at its centre supplemented by pamphlets and the occasional paper in early publications of the Chemical Society. Sumner expertly reviews the content, context, uses, motivation and readers of these printed sources. In doing so he covers contributions from over a dozen authors, few of whom were active practical brewers when they went into print, but rather claimed authority from past experience. Such a large cast of characters could in the wrong hands have turned into little more than a list, but here the author manages to weave their different approaches into a coherent whole which clearly demonstrates the evolution of brewing literature during this 40 year period. The relatively well known writings of William Black and William Tizard are given due coverage, but the works of figures such as John Ham, George Adolphus Wigney and other less celebrated authors are also thoughtfully discussed.

Twin novelties in brewing publications emerged from the 1860s: 1. A flow of research papers on topics related to brewing from a group of scientists working for breweries in Burton-on-Trent, who were capable of moving with ease in both academic and practical circles. 2. The trade literature on brewing which developed in Britain from the mid 1860s facilitating, amongst a wider remit, the regular communication of technical/scientific material to those practising brewers who wished to receive it. In providing a thoughtful discussion of the background and substance of these developments Sumner gives, almost in passing, a concise, perceptive and lucid account of the strychnine scare of 1852 which presented both threats and vigorously pursued opportunities by way of print for the Burton brewers. Similarly in his accounts of the entry on *Beer* in Muspratt's encyclopaedia (c.1854), Charles Graham's Cantor Lectures of 1873 and O'Sullivan & Valentin's maltose-dextrin patent of 1874, Sumner provides insights new to the literature. His assessment of the contributions of two prominent brewer/consultant/authors Frank Faulkner and Edmund Southby is perceptive, particularly when considering their responses to Louis Pasteur's *Études sur La Bière*. A brief assessment of the background to the game-changing 'Free Mash-Tun Act' of 1880 neatly brings us up to the end of the period so thoroughly covered by Sumner. As he puts it '... by 1880, the question of the credibility of brewing science was effectively closed ... From this point forward, it was the non-scientific brewer whose credibility was open to question'. The book ends with a stylish overview of the author's intent and prosecution, clearly outlining the chronology of the changing attitudes it so well delineates.

Accompanying the main text is a 'Principal Dramatis Personae' which gives succinct and pithy bibliographical overviews of most of the characters mentioned in the book; even avid brewing history anoraks will find some names unfamiliar. There is also a useful glossary of brewing terms as they applied in the period covered by the book. The notes and bibliography covering over 60 pages are informative, impressive and accurate.

This book is to the brewhouse what the revered book by Peter Mathias, *The Brewing Industry in England 1700-1830*, is to the counting house. There can be no higher praise.

RAY ANDERSON

The Audacity of Hops: The History of America's Craft Beer Revolution

By Acitelli, T.

Chicago: Chicago Review Press

2013, Pp. xvi + 400, \$19.95

ISBN 978-1-61374-388-1

I'm writing this review sitting in the The Craft Beer Co. bar, Clerkenwell, drinking an American beer, Papø Passion Fruit Porter by Cigar Beer Brewing, Tampa, Florida. That such a beer is available in the UK, the very fact that such a venue as The Craft Beer Co. exists, is in no small part down to the phenomenal explosion of craft brewing in the United States.

It's this story of 'America's craft beer revolution' that *The Audacity of Hops* sets out to tell. The author, Tom Acitelli, is a journalist and this is reflected in the book's writing style, being accessible and chatty. Acitelli must be applauded for his endeavours; the notes reference a vast number of articles from trade journals, local and national newspapers and websites, as well as an impressive number of personal interviews.

The result is an extensive narrative that begins in 1965 with Fritz Maytag hearing of the imminent closure of the Anchor Steam Brewery and his subsequent purchase of a 51% stack in the company. Other influential events and characters are then brought in. Particular attention is paid to the opening of the New Albion brewery, in an old fruit warehouse north of San Francisco, by Jack

McAulliffe and the writings of the Seattle-based Fred Eckhardt, Charlie Papazian (who went on to found the influential American Homebrewers Association) and Michael Jackson. The latter's importance rests both on his encour-

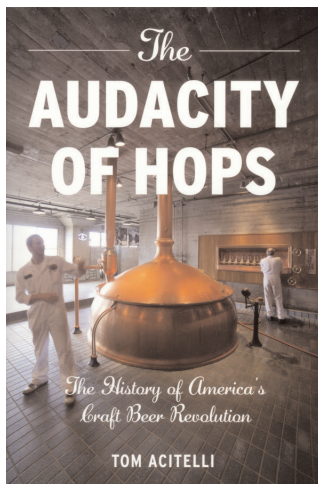
agement of the nascent American craft beer movement and bringing it to the attention of the wider world.

A parallel narrative concerns what Acitelli calls 'Big Beer', Anheuser-Busch, Coors, Miller, etc. He picks up on two themes, firstly their seemingly endless pursuit of inoffensiveness which reached its apotheosis in the mid 1970s with the launch of Miller Lite. Secondly, their subsequent realisation that craft beer could be financially very rewarding. When this struck home Big Beer responded by either producing 'phantom' craft beer, Coors' Blue Moon being one of the most successful examples, or by buying out craft breweries. Anheuser-Busch's purchase of the (ironically named) Independent Ale Brewing Company (makers of Redhook Ale) is well documented here, although, rather strangely, their buy-out of Goose Island in 2011 is overlooked.

For those who have read Maureen Ogle's *Ambitious Brew: The Story of American Beer* the above is a familiar tale, although one told here in far greater detail, and this leads us to one major criticism of *The Audacity of Hops*. Acitelli tells a good story, but he offers very few new insights into the reasons behind American craft brewings emergence and success. The comparison is often made between the revival of 'good beer' in the USA and the UK, the former being producer led and the latter consumer led. If this is the case then why did American craft brewers find a receptive audience for their beers, an American public brought up for decades on flavourless beer? Why did a sizeable proportion of America's population taste change? Another omission is the lack of any bad guys, especially in the craft beer fraternity, and even Anheuser-Busch comes off lightly.

However, despite these criticisms, *The Audacity of Hops* is certainly worth reading. It reflects perfectly the vibrancy, excitement and importance of the US craft beer scene and, through its multiple sources, documents a phenomenon that is still having a significant impact upon brewing well beyond the shores of America.

TIM HOLT



Brewers and Distillers by Profession: A history of the Institute of Brewing & Distilling

By Anderson, R.G.

**London: The Institute of Brewing & Distilling
2012, Pp. 374, £11.95 (PB) & £21.99 (HB)**

Print on demand: //www.lulu.com/shop/

This book was commissioned by the Institute of Brewing and Distilling (IBD) to commemorate the 125 years since its origins in a body called 'The Laboratory Club'. The book does, indeed, contain comprehensive histories of the Institute of Brewing (IoB) and the International Brewers Guild (IBG) and their interaction with other bodies which they have been associated over the years but *Brewers and Distillers by Profession* is a much more fitting title given the scope and content of this publication.

There have been previous histories of the IoB, notably in 1951 and for the centenary in 1986, but these have dealt in a much more limited way with the internal workings of the organisation and its alumni. The history of the IBG has not been recorded previously and the present work is able to correct this failure. It also brings history up to date describing the the merger of the two bodies together with incorporation of distilling industry interests and the major internationalisation of the IBD over the past 25 years.

As might be expected by those who know the author, President of the Brewery History Society, he has not written a hagiographic or sycophantic review of the IBD. In five sections (background and four broad

time-lines) he attempts to place the IBD in relation to the broader social, economic and technical development of the industry.

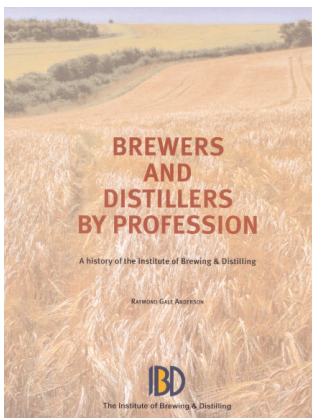
The Background section covers, principally, the last half of the 19th

century. A period when, according to the Oxford English Dictionary, the words 'biochemistry' (1848), 'microbiology' (1880) and 'enzyme' (1881) entered the language and brewing science became established. The author's broad brush encompasses the economics and fluctuating production of the time, the effect of the 1880 Malt Act and the rise of the 'Brewer Barons'. It was a period when the country's leading scientists found the brewing process a convenient medium on which to explore the science of natural products and develop their expertise.

The Foundation section (1886 - 1920) describes how the nascent IoB grew out of the Laboratory Club and a need for brewers and scientists to find common ground. The leading proponents, the consulting chemists of the day, showed a schizophrenic approach however. On one hand they wished to promote industry status but on the other to protect their individual commercial interests. This is demonstrated most clearly in coverage of the formation of the Institute's Analysis Committee and the painful attempts to agree standard methods of analysis. In parallel with the birth of the IoB, Anderson provides a long overdue account of the origins of the 'Operative Brewers' Guild' and its associated 'Benevolent Fund', an organisation to promote the welfare and status of the brewer without becoming labelled as a trade union.

The Foundation Section will provide UK brewing industry readers with much interest in the regional and national development of the IoB and the IBG with their overlapping interests in research, education and welfare. The general reader will appreciate linkage with succinct accounts of external social and political events such as the effects of the 1900 arsenic scandal on the food industry, temperance and alcohol legislation and the effect of the First World War.

The third section covering the period 1921 - 1945 is entitled 'Stagnation'. On perusal this might seem a rather harsh assessment, there was a lack of achievement in many aims but it was not a period of inactivity. Your reviewer would probably have chosen 'Consolidation'. The aftermath of WWI and its effect on economics, alcohol consumption and labour relations cannot be underestimated. The late Victorian period of research and development was over, but in a traditional industry, often treated economically as a commodity, such periods are often cyclical. For the Institute it was a



time for improving relationships with industry raw material suppliers, development of standard methods of analysis, establishment of a professional examination system and funding collaborative research. None of these were without trials and tribulations which are described comprehensively. The Guild faced the continuing challenge of improving the status and welfare of brewers in a contracting industry demonstrated here by change of name to the Incorporated Brewers' Guild and the importance placed on the Benevolent Fund.

The fourth section 'Expectation 1946 - 1979', becomes, at least for this reviewer, 'living history' and will awaken many dormant memories from older, career members of the industry. The period is covered in two main themes. First, in an atmosphere of post-WW2 optimism the collaborative research base exploded with the formation of the Brewing Industry Research Foundation and the growing support for research and education from universities and technical colleges. The Institute became the financial and communications focus for these activities for both historical and tax reasons. It provided also important common ground for links with the Brewer's Society (the employer's organisation and principal funders) and raw material and trade supplier organisations. The second theme is the competing and sometimes strained roles of the IoB and the IBG for professional qualifications and education.

The fifth and final section is entitled 'Rationalisation 1980 - 2011'. It sets the painful and long overdue attempts to merge the IoB and IBG against the radical changes to the industry in this period. Waning interest in industry research was accelerated by the UK Government's notorious 'Beer Orders' when the major brewing companies moved to pub-owning rather than beer production. The much vaunted Brewing Research Foundation became 'Brewing Research International', a free-standing organisation specialising in food safety, analytical services and contract work. The IBD with its expanding interest in the alcohol industries had re-invented itself as a world-leading members' organisation for education and training.

Incomers to the industry have commented frequently on the camaraderie and openness between companies in spite of contraction and search for competitive advantage. A former director of the Research Foundation often grumbled that 'the brewing industry marched on

its stomach'. Throughout this book it is evident that Institute and Guild dinners and social events were major networking opportunities for expression of opinion and advancement of common causes - a strength in an industry that provided a significant source of government revenue and at the same time was always under the critical eye of those opposed to alcohol consumption.

The sections are extensively illustrated with thumbnail pictures of important personalities, venues and installations which bring life and interest to pages of rather dense text. BHS readers of 'Ray's Gleanings' in the Newsletter will have noted that the author is a life-long reader of the *Guardian*. This book has its own 'Grauniads' e.g. 'Achilles heal' (sic) and 'pulling the leavers (sic) of the Institute'. Such amusement seems inevitable with today's type-setting and proof-reading methods.

This short review is not the place to catalogue the book's extensive tentacles into personalities, significant events and other organisations but the book is thoroughly researched and each section is supplemented with several hundred references and explanatory notes. It is well indexed and there is an extensive bibliography.

Ray Anderson properly records the role of the IBD in setting up the National Brewing Library at Oxford Brookes University and which now houses the IBD archive. The book could not have been written without this facility and it is available for anyone who wishes to follow up and delve further into the broader aspects of this history.

Brewers and Distillers by Profession is recommended on two levels. The general BHS reader will be entertained by the early sections dealing with the background and initial history. Members of the brewing profession will be enlightened by the later sections that deal in more detail with the internal machinations of the component bodies and how they evolved to the organisation that they support today.

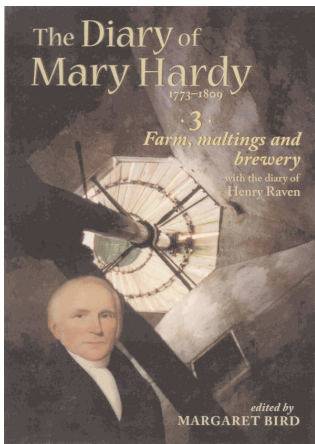
We have been given a long-life reference book worth its space on any BHS bookshelf.

TOM MARTIN

The Diary of Mary Hardy 1773 - 1809
Volume I: 1773 to 1781 Public House and Waterway
Volume II: 1781 to 1793 Beer Supply, Water Power and a Death
Volume III: 1793 to 1797 Farm, Maltings and Brewery
Volume IV: 1797 to 1809 Shipwreck and Meeting House
 Edited by Bird, M.
 Kingston upon Thames: Burnham Press
 2013, Pp. 2,348, £30.00 each. £92 for 4 volumes
 ISBN 978-0-9573360

Against the advice of my English teacher, may I start this review with an apology? I received these books many, many months ago for review and I have been procrastinating for ages on how to approach the review. Sorry Margaret, I have been extremely tardy. In my defence, this publication, or series of publications, is a huge undertaking and deserves far more comment than I can offer in a simple Journal review. It is not something that any historian or casual reader is able to digest in just one sitting. After all this is a chronicle of someone's life - and I mean both the subject, Mary and the author, Margaret.

The diaries cover part of the life of Mary Hardy, a domestic diarist who was the wife of a Norfolk farmer, maltster and brewer. The author had created four major volumes, a paperback and two extensive web sites to try and cover all aspects of the diarist's output. This huge



undertaking accounts for the 25 years it has taken to bring the little known diarist to our attention. The results of this effort speak for themselves.

Where does one start? The author has poured a significant part of

her life into reading, transcribing and analysing the diaries. However, if you replace Mary Hardy with Samuel Pepys you will get a feel for what a huge achievement this work is. Both of the Hardy and Pepys diaries that have been passed down from the 17th and 18th centuries, give we 21st century readers the chance to sample, via experiences written at the very moment they happened, what life was like way back then. Pepys told us about big events such as the Great Fire in 1666, Mary on the other hand gives us a view of rural life a century later. Her words can be delightfully naive. Comments on simple activities, the minutiae of everyday existence, lie next to statements on the world outside Norfolk. The American and French Revolutions, presented as throw away lines, are cheek by jowl with the more pressing needs of making a living in pre-industrial England.

As the numerous transcribers of Pepys have done, Margaret has taken the handwritten personal diaries and faithfully reproduced them in type to remove the variance of Mary's hand. No mean feat in itself. Margaret has then annotated that script to try and explain the short hand terms used, the forgotten turn of phrase, the abbreviations employed and references made. Another huge feat given the changes in our language and reference points since then. Not satisfied with that, Margaret then makes matters even clearer to her 21st century readers by extensive cross references, links to contemporary literature and the local East Anglian press. All of this must have taken enormous amounts of perseverance, determination and patience, not to mention ages in various libraries and record offices. But Margaret was not satisfied with that. To make the project even more comprehensive, she has added illustrations, both historical and modern, to bring to life Mary's world. A world remote from our own, of which we can only imagine. For example on 3 April 1779 Mary's family are recorded as having seen '5 felons hangd at Norwich'. The diaries are useful for research across numerous interests. They record the weather in that area in minute day to day detail. They record wherry traffic and beer distribution statistics, showing a trading world struggling with distribution before the revolution of the railways.

But we do not have to tax our imagination too much. What the author has done with painstaking accuracy is to provide us with copious notes, presented as side bars that run parallel to the text. So for each page we have the

choice of Mary's original words, richly annotated and explained. Invaluable for people like me who want to see what Mary recorded but have not got the motivation to chase each and every nuance. I found these essential in translating what was being passed down to us. Additionally, when Mary casually mentions a name, be that famous or infamous, Margaret translates and expands. Some names are known but many other have passed away into the shadows of history. Margaret has done a fine job in bring these dimly remembered names back into the sunlight.

From the perspective of a brewery historian, the volumes cover the expansion of the brewery from a tiny enterprise through the acquisition of property and brewing premises. A story repeated across the country but never documented in first hand detail. There are links to other brewers whose names I recognise and to people long forgotten. The books are valuable references for those researching brewers or publicans, but also for those wanting to taste the life of a country brewer, his family, trade and customers.

This is not a book with just words. Whilst the pages overflow with notes, reference and expansions of the

original text, it is generously peppered with illustrations, photos, paintings, newspaper ads and drawings. For those not familiar with Mary's locale, Margaret includes maps of the immediate area. In fact everything in the books describes in great detail the social, economical and financial environment common in the 18th century. I was truly astonished that each volume has its own separate index of great depth. This allows the reader and specifically the researcher, to get right to the quotations and the statement.

In conclusion, these are a set of reference books that can be used by scholars and researchers across many disciplines and at all levels. These are books where you would have a location, event, topic or person in mind, and use the text to explore more about that item. You will certainly learn more about that research topic and with Mary's narrative and Margaret's guiding hand, the exploration will be extremely rewarding.

My hearty congratulations to the author, a respected BHS member, on a lifetime's achievement.

KEN SMITH