

REVIEWS

THE GLASS INDUSTRY OF THE WEALD. By G. H. Kenyon, with a foreword by D. B. Harden. Pp. xxii+231, Pls. xxii, Figs. 20. Leicester University Press, 1967. Price £2 10s.

This is one of those rare books which takes its place immediately, without probation or second thoughts, as the definitive work on its subject. It conveys that reassuring feeling of complete authority.

Although S. E. Winbolt's slim book of 1933, *Wealden Glass*, represented a real and necessary advance as a synthesis of knowledge at the time, and contained some useful historical research, its archæological conclusions were insecurely based, and it soon became more of a danger than a prop. A sound comprehensive account of the English Forest Glass industry (which could, with advantage, have been in the title of this book) was overdue when G. H. Kenyon, encouraged by his friends, led by Dr. Harden and Mr. Steer, undertook to fill the gap. No one could have done it so well. For Kenyon had worked with Winbolt, and had absorbed the atmosphere in which he and his predecessors, like Cooper, had done their pioneering work. He had kept in touch with later progress, and had also thought deeply about the problems (indeed had himself originated much of the new knowledge). He was the bridge between the old and the new outlooks (while keeping in the van), and his book reflects this clearly. It comes, in fact, just when fresh advances are being made in the study of forest glass, and when in consequence a sound foundation is required on which to build the new edifice which is arising. Its bottom courses already appear in this book. Dr. Harden's foreword is by no means an over-statement of the permanent value of this achievement.

Twenty-one glasshouse sites in the Weald had been examined by 1939, and a few elsewhere. The remains were scanty, and most of the sites add little to knowledge. Understanding of their background was patchy. Now 42 sites are known in the Weald (of which 14 are in Surrey), and some 30 elsewhere in England. Not only are the physical aspects of the industry now better understood, with the use of scientific techniques and analysis, but the economics and history are becoming clearer.

The book begins with an absorbing introduction, which creates a new understanding of, and much sympathy for, the efforts of Rev. T. S. Cooper (author of a manuscript history of Chiddingfold), and of S. E. Winbolt, to solve, with quite inadequate resources, the problems of those few sites which had anything to yield. *Wealden Glass* suffered from sheer lack of material on which to build better understanding of furnaces and processes. Only four or five glasshouses in the Weald have produced structures worth mentioning, and of these, two were discovered only in the last few years. That Winbolt's conclusions were sometimes invalid need cause no surprise.

The history of the Wealden industry is then described. Its continuous history begins with the Normans, who no doubt at first imported glass from France for their vast building programme of churches, abbeys and castles, and later encouraged French workers to come over here. The first dated glasshouse is Blunden's Wood, Hambleton (c. 1330), and this also happens to be the most complete and apt for study. The Wealden sites are concentrated, unlike the ironworks, in a close group of only eight parishes; 32 of the 42 are, in fact, in three—11 in Chiddingfold, 10 in Kirdford, and 11 in Wisborough Green. This must represent an officially sanctioned settlement in Norman times, developed and held together by intermarriage and accession of relatives. But Kenyon, even after much research into the records, cannot associate many of these with specific sites. He brings out the two roots of the industry, in Normandy and Lorraine, but the evidence does not allow him to distinguish, if this is possible, furnace types of each origin.

Kenyon makes an important contribution by his recognition that the traditional distinction between potash (fougere) and soda (barilla) glass (the dividing line coming sharply with Carré in 1567) is not only unreal but mis-

leading. Certainly techniques improved around Carré's time (but not necessarily as a result of his initiatives alone) but the basic ingredients were the same; all Wealden glass was, in fact, potash glass. Kenyon now proposes an early and late period of Wealden glass, dividing about the middle of the sixteenth century. The evidence from Knightons, Alfold, when the excavation there is complete, may shed light on the interface.

Kenyon's wise words on cullet (p. 18) are very welcome, and will help every worker. In fact, one of the things which makes the book so readable is the frequent revealing remark, arising from long experience and thought. This not only adds greatly to the pleasure, but illuminates the subject very significantly.

The book itself falls into two halves. The first part is a detailed account of the industry; Chapter I dealing with the medieval period. This brings out the excess of glassmakers over dated sites. In fact, Blunden's Wood stands out as one of the few fixed points, and that well on, as well as the first. From then (c. 1330) on there is a trickle of sites to the end of the fifteenth century, but many gaps and few even approximate dates. No doubt some of Cooper's and Winbolt's sites could be profitably re-excavated.

Chapter II examines the raw materials of glass, and does it very well. The analyses (p. 39) show a significant difference in alkali content between early and late glass. Kenyon inclines to connect this with a greater tendency to weathering and decay in the soil in early glass than late. But I do not think that this can be the whole story. At Knightons the very considerable amount of cullet, from a concentrated heap, now in soft dark humic soil, is conspicuously discoloured, to the point of opacity; while the glass on the clay and stone floors, and in the furnaces (much of it on burnt clay), is almost all translucent. In this case, at least, discoloration seems to be a function of the chemical environment of different soil conditions. More work needs to be done on this.

Chapter III (Fuel and Crucibles) is again excellent. But the problem of where the crucibles were made, and where the clay came from, is still unsolved. Those at Blunden's Wood were distinctive, being barrel, not bucket-shaped, like those on most Wealden sites, and had a small range of quite unusual rims (not illustrated). Those at Knightons all have rims sharply pinched towards the inside, which again is unusual. I have the impression that at both sites, certainly at Knightons, the pots were made by one man, and it is not unreasonable to assume that he worked at the glasshouse itself. True, the clay used is not that on which the site itself stands, even though it would have been suitable. But this is not an insuperable difficulty; clay was easier to transport than finished pots, and the potter may well have known of, and preferred, a particular clay. At Knightons the clay is very white and iron-free, and the source of this is proving elusive. Perhaps it is now worked out, but the search goes on. Whether the pots were glazed is another problem (p. 53). At Blunden's Wood and Knightons they were not. It would have been useful to have had Mr. Kenyon's views on this.

Chapter IV (The Glasshouse and its Furnaces) is in many ways the kernel of the book. Much stress is laid here (and indeed throughout the book) on Blunden's Wood, as so far it is, with Jamestown and a few others (and now Knightons), almost the only site anything like complete and really informative. But Kenyon relies perhaps too heavily on the excavator over the use of the different furnaces here. Miss Dorothy Charlesworth has recently pointed out (in *Journal of Glass Studies*, IX (1967), 131) that any furnace can, and probably did, have more than one use as the situation demanded, and this may well be true for Blunden's Wood or for any other forest glasshouse.

Since the book was written, the excavation of Knightons has begun. This has (so far—June 1968) revealed five furnaces, and a possible sixth. Three of these are working furnaces of the 'normal' type, with two clay and stone sieges on each side of a central flue, and close-containing walls. One is anomalous, and not yet understood. The fifth is a well-built furnace with a rectangular chamber on each side of a common central wall, overlapping to allow heat to pass between them. This was definitely used (and indeed designed) for annealing crown sheets, but vessel was also annealed in it. The origins of this unique structure, being made for crown, are thus almost certainly to lie

in Normandy. Although two-chamber furnaces are found elsewhere in Northern Europe (e.g. the Swedish example at Trestenshult (1620–40), which had one chamber for working, connected with an annealing chamber which used its residual heat), this one is more likely to be an early example (very probably the first in England) of the type illustrated in Diderot's *Encyclopédie* (1766), which has horizontal slit openings through which to insert the crowns.

Knightsons seems to fall into two phases of use; the second phase consists of two of the working furnaces and the annealing furnace. This, of course, fully bears out Miss Charlesworth's point—the presence of a specialised annealing furnace seems to demand the conclusion that the working furnaces were used for fritting and pot-arching as well. The question of double furnaces (p. 81) may be illustrated by the arrangement at Knightsons.

Although Kenyon wisely, with the evidence available, does not attempt to suggest any sequence or evolution of furnaces in England, this is bound to arise as more sites are excavated. I cannot say whether the main furnace at Blunden's Wood, with its so far unique cavities between the walls and the sieges, was *sui generis* or a common medieval type; and it looks as though by the late fifteenth century (at least) the normal type was that with no cavity, as at Bagot's Park, Knightsons and Bishop's Wood. Knightsons (c. 1550) seems to introduce the special annealing furnace just described—and the winged type (also used in France until the end of the eighteenth century) comes in at Vann, Buckholt and Rosedale by the 1580s. (These purely French types only preceded by a few years the English development of the coal-fired furnaces after 1611.)

If this seems to demand elaboration, it is that the Knightsons annealing furnace must have been invented in Normandy, presumably because annealing is the biggest problem of crown-making, and the commercial future of crown depended on a good furnace for this. This may also have been a factor in the invitation of Normans to England to make crown. At Knightsons the new crown annealing furnace was used in conjunction with two 'normal' type working furnaces; so the winged type was not invented then, or it would presumably have been used as well. The winged type is therefore either later, or an invention of Lorraine—certainly it does not appear in England until about 1570. If only more glasshouse archaeology were carried out in France, many of our problems might be solved.

This chapter contains a wealth of detail on furnaces and working methods, and is most valuable.

Chapters V and VI describe the glass itself. These are useful pages, but I have the impression that all has not been said on English Forest glass and its relationships. Much more work is needed (and much more collaboration between the archaeologist and the art historian!), and the humbleness of most of the wares involved should not be allowed to deter the worker. Studies like that of Mr. Hugh Tait (in *Journal of Glass Studies*, IX (1967), 98–9) of beakers with milled base and spiral pattern, found on many Wealden sites but of Netherlands origin, show what can be done. Large quantities of cullet, such as has turned up at Knightsons, may give a stimulus.

While we are on small finds, tools and pottery might be mentioned. The range of glassmaking tools is well-known from illustrations, but, in fact, few English sites have produced actual remains, and one would like to see these to support literary or modern comparative evidence. Of recent sites, Blunden's Wood yielded only a shovel (and a horseshoe); Bagot's Park a bar (? part of a pontil), a blowing-tube, nails, a horseshoe and a hook. Knightsons has produced parts of blowing-irons and perhaps pontils, nails, and nondescript iron bars and straps which might be parts of frames in the annealing furnace. As for pottery, only Blunden's Wood and Bagot's Park have produced sizeable quantities—Knightsons hardly any. This raises the question of where the workers lived—whether they camped on the site (as was done well into the nineteenth century in France and Sweden), or elsewhere.

Page 82 brings out the curious and extensive gaps in the present picture of the sequence of glasshouses. I have the impression that most of these are artificial (even that for window glass postulated by Mrs. E. S. Godfrey for the early sixteenth century), and due mainly to lack of finding the glasshouses.

If production was, in fact, continuous for the 400 years of the Forest industry, then there should be two or three times the number now known. Names of glassmakers are known without sites to tie them to, and vice versa. Of the 42 Wealden sites, 13 are Early, 3 Transitional, 16 Late, the rest uncertain. So 15 or so occupied 350 years, and 20 or so the remaining 70 years. We know too little of the *life* of a glasshouse (although Milet, for Normandy, suggests a life of 12-15 months (only!) for working furnaces, and 8 days for a pot), in relation to its *output*, and to the *demand* for glass. I have assumed a life of ten years, with no very firm evidence, and if this is out, the effect on the numbers of sites still to find will be proportionate.

The great expansion of demand, and of the industry after 1550 (also shown by the use of more efficient furnaces), implies large potential numbers in the years up to 1620. And, in fact, they are being found—but interestingly enough, and quite predictably, more in other parts of England than in the Weald; Staffordshire, Lancashire, and even in a remote part of Yorkshire. This raises a new question. The old view was that the Weald industry sent out offshoots by about 1570, in an orderly sequence, to Hampshire, Gloucestershire, Staffordshire, Cheshire, and finally south Yorkshire and the North-East in the seventeenth century. But there are growing indications (Bagot's Park, *c.* 1535, and Rosedale, ?1560s) that some of these non-Weald centres may be primary centres, colonised direct from France, or at least not via the Weald. Not only the growing demand, but the situation of protestants in France, may have contributed to this.

Chapter VII, on administration, leans heavily, and with justice, on Mrs. E. S. Godfrey's masterly, and regrettably still unpublished, thesis. Even more could have been drawn from it. There is also much in the French sources, such as *Le Vaillant de la Fieffe* and Milet, weighted as they are to the histories of glassmaking families, which could apply to the Weald. In particular they have information on quantities of ingredients, fuel, etc., used, prices of raw materials and finished products, division of labour (there is some good Swedish material on this, too), marketing, but not enough on furnaces. The tantalising hints that some of the sand came from Normandy need following up.

Chapter VIII deals with the Wealden families of glassmakers, and does it very well indeed; unless more records become available this will be for long the central source for this aspect. I would have liked more about Henry Smyth, referred to in a footnote on p. 211. Smyth, a merchant of London, was granted the first patent, in 1552, to bring over workers from Normandy to make broad glass ('commonly called Normandy glass,' or crown). Winbolt says that owing to the death of the King they did not come, but I cannot find the source of this statement; they may have come, and returned when the King died. Smyth had lands in Alfold, and at Knightons a coin of Edward VI was found, and there is the new set-up for making crown. The possibilities are intriguing.

The book ends with an excellent descriptive list of all the known sites, not only in the Weald but elsewhere. This puts us permanently in Mr. Kenyon's debt, and there is nothing like it. The hints for finding sites are useful, and one hopes they will bear fruit. There is much unfamiliar detail, due partly to Kenyon's deep knowledge, and some new material, for instance the reconstructions of Buckholt (pp. 214-17), and Vann (p. 196), which make sense of what had been difficult plans. On Woodchester, however (p. 218), with its anomalous 'round' furnace, Kenyon is perhaps too brief. The book was written before much had come from Knightons, and this alone undermines the fear, on p. 4, that new sites would provide little fresh basic information. Bagot's Park has now been brilliantly reported by Mr. D. W. Crossley (in *Post-medieval Archaeology*, I (1967), 44); Rosedale was excavated in 1968, and is as yet unpublished. The new Lancashire sites have yet to be excavated.

The book is magnificently produced, and a pleasure to handle; paper, printing and layout are pleasing, and errors are very rare. Leicester University Press is to be congratulated. The quality of the plates is, however, uneven, and some (e.g. Pl. XXI) are not very illuminating. The model of Blunden's Wood in the Pilkington Glass Museum could have been reproduced, if only for the general reader. The occasional repetition between chapters is fully justified, but it would have been helpful to have a subject index,

All in all, this is a fine book, and one of which both the author and publisher may well be proud. It is not only invaluable for specialists, but delightful for the ordinary reader who wants to understand, in the most pleasurable way, this fascinating aspect of our cultural history. It deserves a wide success.

ERIC S. WOOD.

SURREY RECORD SOCIETY. Volume 26. 'Fitznells Cartulary.' Pp. clxviii+156, Pl. 5.

It is to be hoped that the latest volume of the Surrey Record Society (for the years 1965-6, though only just issued) will reach a wider public than the members of the Society. In the past the volumes of the Society have had an unattractive format, and have lacked general appeal; however the present volume is up to the highest standards of record society publications. Described in the preface by Miss Gollancz as an edition of the Bodleian MS. Rawlinson B 430, a cartulary of the manor of Fitznells in Ewell, Surrey, this volume is in fact 'a calendar of those portions of the cartulary which are in Latin and a transcript of the portions in English.' This consists of 69 pages. There is also an appendix of additional documents mostly taken from the Cuddington deeds in the Public Record Office; another 11 pages. But the principal part of the book consists of an introduction, with notes, of 168 pages; notes to the text and appendix of 42 pages; and an index to the whole work of 34 pages. So that the actual Fitznells cartulary occupies hardly more than a fifth of the book.

All this introductory matter appears to be the work of Mr. C. A. F. Meekings, who long ago edited volumes 17 and 19 for the Society; except for a brief account of the topographical background by Mr. Philip Shearman, and some maps. Mr. Meekings' account of the tenurial background to the cartulary; his elaborate studies of the principal persons and families concerned: Walter de Merton (founder of Merton College, Oxford), the Ewells, the FitzNeils, the Nowers, the Iwardebys; all combine to form a masterly contribution to the manorial history of Surrey, much of it based on documents in the P.R.O., which should set a standard of scholarship for other Surrey publications.

The ten-page account of the diplomatic of the deeds will be invaluable to all students of archives. There is an immense amount of fresh material here for the genealogist; for instance, the information as to the brass and window at Mapledurham, commemorating John I Iwardeby, is not referred to in Mill Stephenson's *Monumental Brasses in the British Isles*, or E. A. G. Lamborn's *Armorial Glass of the Oxford Diocese, 1250-1850*.

The index is useful, but somewhat capricious; as while the notes to the text are indexed, the notes to the introduction are not; and while the combined index refers to the documents by numbers, it refers to the introduction by pages: a most confusing system. For instance, Erneburgha de Bray is indexed because she occurs in the introduction; but Erneburgha de Crues (whom Mr. Meekings suggests may be her grandmother) does not, because she only occurs in the notes to the introduction. All this causes the searcher unnecessary homework.

The printers, the Northumberland Press, must be warmly congratulated. The book has a far wider value than its title or provenance would suggest, and can be unreservedly recommended to librarians, genealogists and archivists.

CHARLES EVANS.