

An Historical Enquiry into the Design and Use of Dovecotes

by

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The study of dovecotes is traced from the first antiquarian interest in the nineteenth century. Some statements which occur frequently in the literature are examined against the evidence of historical sources: the place of dovecote pigeons in the diet of manorial and monastic households; the causes and chronology of the decline of dovecotes; historical comparisons with France; an estimate of the number of pigeon-houses in England in the seventeenth century; and the influence of climbing rodents on their design. An approach to the study of dovecotes is proposed, in which the emphasis is on how they were designed to meet the instinctive requirements of pigeons, and to provide protection in various environmental conditions. The purposes of some internal features are examined. A terminology is proposed for dovecote studies.

The first antiquarian to take an interest in a dovecote was the Reverend John Webb, who in 1846 published a meticulous account of the medieval dovecote at Garway, Herefordshire. His interest in it arose from a documentary study of a Knights Templar manor; he recorded the dovecote primarily because it was the only substantial survival on the ground. The study of dovecotes was not extended until 1887, when R.S. Ferguson, Chancellor of the Diocese of Carlisle, published a paper on their historical background in *The Archaeological Journal*; the following year he re-published the same text with an account of the dovecotes of Cumberland. In 1890 Alfred Watkins published a major survey of the dovecotes of Herefordshire—a county singularly favoured with surviving examples—and added a few in the Gower peninsula of Glamorgan. In 1905 the Honourable Mildred Berkeley published an account of the dovecotes of Worcestershire, repeating much of Ferguson's historical material and adding some of her own. From that time a few brief notices on particular dovecotes began to appear in county archaeological journals.¹

It is probably no accident that the first three county surveys were undertaken in counties mainly devoted to pastoral farming, for dovecotes survived in use longer in these areas than in predominantly arable regions. Even so, the recording of dovecotes began only just in time, for most of them had been redundant as working buildings for half a century or more. They survived more through the inertia of their owners than through any particular concern for them. Some had been crudely converted to other farm uses; others simply stood empty and unmaintained while the natural processes of decay did their work. William Cobbett saw several abandoned dovecotes on manorial sites in the valley of the Wiltshire Avon in 1826. The dovecote at Garway was being used as a pigsty by 1844, and a self-sown tree on the top had been growing there long enough to split the wall. In 1890 Watkins found seventy-four standing

dovecotes in Herefordshire, but he collected information about another thirty which had been demolished already. Many of those recorded by the pioneers of the subject no longer exist.²

The subject only began to impinge on the public awareness with the publication of *A Book of Dovecotes* by Arthur O. Cooke in 1920. He described over two hundred dovecotes in England, Wales and Scotland, but as he freely admitted, the geographical coverage was patchy and incomplete. He obtained most of his information by appealing in newspapers, and based his book on the responses of correspondents, supplemented by the few published reports. In his book some counties are represented by only one or two examples; many counties are not mentioned. In some areas it is clear that he walked the ground and examined the buildings which had been reported to him; elsewhere he merely re-wrote the information he received.

A Book of Dovecotes is a charming work, written in a rather discursive style, taking the classical background from Varro and Columella, repeating historical information taken from Ferguson and Berkeley, bringing in a few French dovecotes, adding snippets from the *Highways and Byways* series and his own observations of the topography. It is well illustrated by reproductions of line sketches, watercolours and photographs. This book has become the basis of nearly all later dovecote studies in Britain. Apart from the three county surveys which he incorporated, there was no other background reading. It follows that some of his statements have been repeated over and over again in the later literature, until they have acquired an apparent authority which he would not have claimed. Some of the hypotheses which he put into general circulation have never been seriously examined. After seventy years it seems appropriate to look at them again, and to re-assess them against the evidence of contemporary sources.³

THE DOVECOTE AS THE LORD'S LARDER

Perhaps the most pervasive of these ideas is the belief that, in Mildred Berkeley's words, 'During the winter months the religious houses and the manor houses depended on these birds [dovecote pigeons] for their supply of fresh meat'. Cooke introduced the theme to a wider readership: 'The agriculturist of Norman and much later days . . . fed his flocks and herds through the spring and summer upon grass; then, when the grass grew scant in autumn, there was a universal slaughter, all save a few breeding animals being killed and salted down for winter food . . . With this elimination of fresh beef and mutton from the winter bill of fare, we understand how welcome would be any smaller creatures which would live through the lean months and yield a never-failing stock of appetising food. Such a place was filled to perfection by the pigeon'. This proposition had been introduced into the dovecote literature originally by Ferguson, citing only minimal evidence. It is a view of the medieval economy which cannot be accepted now: it was even in conflict with published evidence which was available then.⁴

As Ferguson, Berkeley and Cooke were writing specifically of lords who could exercise the manorial privilege of maintaining a dovecote we need not be concerned with the diet of the rest of the population—on which much less information is in any case available. Household accounts which have survived from the Middle Ages show a very different picture. The extremely detailed accounts of the Bishop of Hereford

for 1289-90 had been published by John Webb thirty years before Ferguson was writing, and were actually mentioned by Watkins and Cooke, although it is clear that they did not read them. The Bishop was a man of importance in his own county but one of the least wealthy in the hierarchy of bishops, so he provides a useful example if one wishes to examine the importance of the dovecote in the lordly economy. His way of life would surprise anyone who has been led to believe that the winter diet of a medieval lord consisted of a monotonous succession of salt meats. The year was divided into fish days and meat days; except in Lent meat days slightly outnumbered the others. On every fish day several kinds of fish were served: river fish, sea fish, shellfish, and the produce of the fish-ponds. On every meat day, winter and summer alike, it was normal to serve two or three kinds of meat—beef, veal, mutton, lamb, or pork—much of which was fresh, invariably accompanied by poultry or wildfowl. Salt meats occurred too, but were separately identified.

How far down the hierarchy all this variety of fare was available is difficult to assess; possibly the delicacies were served only at the high table. Certainly the Bishop and his closest associates lived very well indeed. Like most medieval lords the Bishop spent much of his time travelling round his manors, normally with a household of about twenty-five persons, rising to forty at times; they visited London in January. The quantities recorded indicate that everyone in the household ate meat on meat days. From many other household accounts Christopher Dyer has calculated that members of the gentry and upper classes consumed between two and three pounds of meat a day.⁵

How was it possible to maintain the supply of fresh meat in winter? The purpose of the manorial economy was not to produce a profit, but to supply the lord and his household with their requirements throughout the year. Every manorial site had its water-meadows whose main function was to grow winter fodder; large quantities of fodder were stored. For example, it was necessary to supply hay for the horses of the Bishop's household and baggage train, and those of his guests on feast days. The manor of Prestbury fed fifty-five horses at Christmas, and the manor of Colewell fed seventy horses at Easter. It was simply a matter of management to ensure that enough fodder was stored to maintain the meat-animals which the household would consume during these periodic visits; the annual itinerary was constant and predictable. When travelling to and from London, and sometimes within the diocese, food supplies were purchased at local markets. These purchases show that freshly-slaughtered carcasses were commercially available throughout the year, although at prices which only the rich could afford.

The picture of the manorial economy offered by Ferguson, Berkeley and Cooke concentrated on the alleged absence of fresh beef and mutton in winter. They disregarded pork, which was not dependent on grass. The Bishop's accounts, in addition to frequent records of the consumption of porkers and piglets, specifically mention a boar which was purchased in November to be slaughtered the following Easter, which confirms that there was no difficulty about feeding pigs in winter. Ferguson and his followers disregarded veal, recorded from January, and lamb and kid, which were eaten from February. Hares, poultry, and many kinds of wild birds from geese and partridges to larks were eaten in winter, in addition to the rabbits

mentioned by Ferguson.

These writers also disregarded the most prized meat of all, venison. From the Conquest the Norman lords appropriated to themselves the indigenous red and roe deer, and they introduced and farmed fallow deer. By the thirteenth century no lord of any consequence, secular or ecclesiastical, was without his deer parks, and his forest officers and parkers to conserve the deer. The frequency of the surname Parker tells us something, but there is better evidence: a major study by Oliver Rackham has found documentary records of 674 deer parks in eight counties before 1535, and he estimates that there were 3,200 parks in England in 1300.⁶ The alternate seasons of the hart and the doe kept venison in season from midsummer to the beginning of February; and where roe deer were to be had (as when the Bishop travelled near the Welsh border) the season was extended to Lent. A present of venison was a common gesture of courtesy between lords.

Other records confirm this picture of the diet of medieval lords, ecclesiastical and secular, who were sufficiently wealthy to have recorded household accounts. The monastic way of life was different, both because it involved staying in one place, and because it was deliberately austere. How plain the food was at any particular house at any particular time depended upon a decision taken on religious grounds, not on the seasonal availability of meat. As the monastic ideal declined, so the deliberate rigour of the diet abated, and most monks lived better within the religious house than most of the population outside.

After the Middle Ages fresh meat continued to be available in winter to those who could afford it. Other household accounts from various periods will be mentioned later, all of which record the consumption of fresh meat in winter, but it is worth noting the dietary advice given by Matthew Stevenson in 1661 for the month of March, 'Veal, lamb and sucking rabbits are good for weak stomachs'; and for April, 'Pullets, capons, sucking veal, beef not above three years old'.⁷ 'The turnip revolution' of the eighteenth century will be considered later; certainly the introduction of root crops for winter fodder increased the total amount of meat produced, and made it accessible to lower economic classes, but we should not be so carried away by the propaganda of later progressive farmers as to believe that before their time fresh meat was not available in winter. At all periods it was normal practice to salt down some meat in autumn, but the 'universal slaughter' described by Cooke is a misconception.

'A NEVER-FAILING STOCK OF APPETISING FOOD'?

It is perhaps more surprising that Ferguson, Berkeley and Cooke did not understand the annual breeding-cycle of pigeons. The normal product of the dovecote was the squab, the young bird which was still being fed by its parents, taken from the cote at the age of about four weeks, just before it fledged and so began to toughen its flying muscles; it yielded about a pound of tender meat. In their first few years pigeons bred continuously from March to September, but in the winter months breeding almost ceased. Pigeon-keepers regarded the last main brood of the year as poor breeding stock, so these were always slaughtered as squabs, reaching the table in October when plenty of other fresh meat was available. Smaller numbers of pigeons were taken from the dovecote in the first week or two of November, and then they virtually disappeared

from the menu until Easter. Varro described a Roman practice in which the pigeon-keeper broke the legs of the squabs to confine them to the dovecote, still fed by the parent birds. If this practice continued in the Middle Ages it might extend their lives a little to produce a delicacy late in the year, but it could not basically alter the annual cycle.

The first young produced in the new year would grow to maturity and breed the same year; a few might be taken for a special occasion, but most or all of this brood were normally spared. In 1577 Barnaby Googe's *Foure Bookes of Husbandrie*, derived from a Latin original by Conrad Heresbach, defined the programme: 'In March they begin to breede, if the weather be warme, before . . . wee suffer the first flight to flie, to increase the breede: as being hatched in Marche, will breed again in July, or August. Those that we meane to take for the Kitchen, or the Markette, are best to be drawne at the latter time of the yeere, when they are woorst able to defend themselves from the cold, and from Buzardes, and Crowes: the best for broode among all fowles is the Marche broode'. In 1581 Leonard Mascall took similar advice from a French text by Charles Estienne: 'You must let your firste broode flie, to replenish your house all the yeare after, which time they call from Marche to mid Aprill, for those yong Pegions then bredde, will bee the fattest and tenderest Doues of al their broodes for that yeare'. This continued to be the practice in commercial squab production in the United States in the twentieth century.⁸

THE EVIDENCE OF HOUSEHOLD ACCOUNTS

All household accounts which mention pigeons confirm this annual cycle. The Bishop of Hereford's accounts record their consumption on eight days in October, on two days in November, but not again until Easter. The cellarers' rolls of Durham Abbey in the period 1307 to 1416 mention pigeons on numerous occasions, but never between October and Easter; all the largest quantities occurred in September and October. The earliest accounts of Sir Hamon le Strange of Hunstanton, Norfolk, cover the period from 9 October 1328 to 4 February 1329; pigeons were mentioned on six occasions in October, twice in the first week of November, but not again in the period recorded. Dame Alice de Bryene of Acton, Suffolk, was exceptionally well supplied with pigeons: her household of about twenty persons ate them on almost every meat day in October and the first half of November, 1412, averaging eighteen pigeons per day; from 20 November no more were recorded, except four pigeons on 6 March, until Easter 1413. F.G. Emmison's study of the diet of Sir William Petre's household in Essex in 1551-2 concluded: 'Pigeons from the Hall cote were eaten regularly from April to late September. The heaviest drawing in 1552 took place early in August'. The very well-fed judges on the Western Circuit whose consumption was meticulously recorded in the years 1596 to 1600 were on Assize duty in February and March each year, but pigeons did not occur in their diet until the second term, in June and July. A detailed provision book of Thomas, Earl of Suffolk, Lord Treasurer of England, records the food consumed at Audley House, Essex, each week in the period 1617 to 1629; every year pigeons were last recorded in the first week or two of November, and re-appeared the following March or April, except on one occasion in December. In Lord Cornwallis's household at Culford Hall, Suffolk, the content of every main

meal was fully recorded from 1 January to 20 May 1703; pigeons did not occur until 28 March. Weekly food accounts survive for a later owner of Audley House, Sir John Griffin, from 14 May to 31 December 1765; pigeons were drawn from the dovecote every week, averaging twenty a week, until the second week in November, and then no more that year. In succeeding years the records are less complete, but they show that pigeons were served in December only once in five years, and then only six of them. Whether one looks at ecclesiastical, monastic or secular households, from the county gentry to the highest in the land, at any period from the thirteenth century to the eighteenth, the evidence is the same: the dovecote did not provide fresh meat in winter except in tiny quantities on very rare occasions.⁹

It is clear from these accounts that even within the main breeding season the production of pigeon-meat was intermittent, whether as a result of natural factors or deliberate management. Many pigeon-keepers allowed another brood of squabs to survive as breeding stock in addition to the March brood; Robert Loder of Harwell, Berkshire, early in the seventeenth century, always allowed the harvest flight to fly. This fluctuation is clearly demonstrated by the monthly totals of pigeons eaten by Dame Alice de Bryene's household: October 275, November 147, December, January and February nil, March 4, April 100, May 238, June 54, July 54, August 336, September 340. All accounts show a steep decline in the consumption of pigeons in June and July, although the dates vary from year to year. In arable farming regions there was little food on the ground for pigeons between midsummer and the pea harvest; this was called the 'benting time' because pigeons were obliged to feed on bents, dry grasses. Pigeon-keepers fed them at this season, as well as in the depth of winter.¹⁰

After four to six years pigeons ceased to breed so frequently, and they bullied the younger birds, so it was normal practice to cull the old birds at the end of the breeding season. This operation was described by Leonard Mascall in 1581, and by Henry Stephens in 1844. Probably the last pigeons recorded in the year were culled birds; only prolonged stewing or steaming could make them tender enough to eat. In the same work Stephens wrote 'young pigeons alone are made use of, and the pigeon does not hatch in winter'. Clearly he regarded the old birds as little better than waste products. A century later W.M. Levi confirmed this judgement: 'It is a problem to dispose of these old birds . . . The price paid for such birds is so small that it hardly warrants the breeder to figure on an income from them'.

Stephens claimed that pigeons could be induced to continue breeding one month later at the end of the year, and to start breeding one month earlier in the spring, by keeping them in heated buildings—whether in stables heated naturally by the horses, or heated artificially. (This may account for the chimneys occasionally found in nineteenth-century dovecotes, which puzzle modern observers.) Semi-scientific attempts to improve upon traditional livestock management were typical of this period, but it is unlikely that he was right; modern research and practice indicate that the breeding-cycle of birds is conditioned not by temperature but by the length of daylight, or artificial light. Googe's statement that in some years pigeons begin to breed before March 'if the weather be warme' should probably be read to mean, if the weather is fine, with a regular succession of long bright days. Varro, referring to Mediterranean

conditions, wrote that pigeons ceased to breed from the winter solstice to the spring equinox.¹¹ It remains a mystery why Cooke, who took so much else from Varro, chose to disregard this passage; and why he and other writers, down to the present day, have asserted that dovecote pigeons provided a dependable source of meat in winter in the face of so much evidence to the contrary, much of which was already published at the time when they were writing. The truth is that before the late eighteenth century, when pigeon-keeping ceased to be a manorial prerogative, dovecotes were expensive prestige buildings whose only economic function was to provide an additional delicacy for those who already had plenty of other fresh meat; the largest numbers of pigeons were always drawn from the dovecotes in August, September and October. This realization must fundamentally alter our concept of the place of dovecotes in the economy.

The occurrence of pigeons in the medieval diet was of course affected by Lent. For over six weeks no meat was taken, save by the sick and children, except on a single 'Refreshment Sunday' in the middle. After this long period of abstinence the tender meat of young pigeons was a particularly welcome delicacy at the Easter feast. The Bishop of Hereford ate pigeons on Easter Sunday, 1290, which occurred on 2 April; and substantial quantities were taken from the cote in the following week. The earliest possible date of Easter was 22 March, but that occurred only once a century; three times out of four Easter fell in April, by which time pigeons were in season again.¹² In years in which Easter occurred early small numbers of squabs might be taken from the cote in the last week of March, but the pigeon-keeper tried to retain most of this brood for breeding, as recommended by Googe and Mascall.

The annual cycle described here makes sense of Thomas Tusser's pithy advice to farmers for the month of January, first published in 1577:

*Feed doue (no more killing), old Doue house repaire,
save doue dong for hopyard, when house ye make faire.*

He repeated this in another form:

*Feed doues, but kill not,
if loose them ye will not.
Doue house repaire,
make douehole faire.*

That is, it was necessary to feed the pigeons in the depth of winter. By January the only birds left in the dovehouse were the essential breeding stock; the last brood of squabs had been taken for eating in October and early November, and the old birds had been culled. If any young were hatched in winter they were to be saved for breeding. This was the best time to carry out necessary maintenance and cleaning, and to remove the accumulated dung for manure, to avoid disturbing the sitting birds in the breeding season. Ferguson quoted a stanza from Tusser about the care of dried fish, but it is strange that he disregarded these passages, for they are much more relevant to his subject. One can only conclude that he did not understand them.¹³

A curious example of the faith which so many later writers have placed in Cooke's thesis—even against good evidence—occurs in G.A.G. Peterkin's study of Scottish dovecotes of 1980. In this he actually quoted the passage from Emmison which has been summarized above, stating that in Essex pigeons were eaten from April to late

September, and then added: 'Of course, in Scotland, pigeons were mainly eaten in winter-time'.¹⁴ Biological determinants operate in Scotland as elsewhere!

THE DECLINE OF DOVECOTES

Cooke introduced a persistent theme into the literature when he wrote 'It will be neither jest nor paradox to say that dovecotes were in a great measure doomed when first the turnip and swede were introduced to British agriculture, early in the eighteenth century' because they 'solved a problem which had long baffled the British farmer; that of maintaining sheep and cattle through the winter months'.¹⁵ It is a statement which has been copied by almost every subsequent writer on dovecotes: there is not a shred of evidence to support it, and a great deal that conflicts with it. The printed propaganda published by enclosing landlords of the eighteenth century gives the impression that they were responsible for a major scientific advance in recognizing the value of the turnip as winter fodder. The turnip was recorded in England as a garden vegetable in the fifteenth century; Samuel Hartlib recommended its use as fodder for cattle in 1651—in which he was merely recording the existing practice of Dutch farmers. Eric Kerridge has shown from probate inventories that Suffolk yeoman farmers were already growing turnips on a substantial scale for use as winter fodder by 1660; the practice was extended to Norfolk by 1674. This was confirmed in print by John Worlidge in 1669, Richard Blome in 1686, and John Mortimer in 1707; the last was able to give specific information about exactly how they were grown and used.¹⁶ Peter and Jean Hansell attribute the 'introduction of winter feeding for animal stock' to the 'agrarian pioneers' Jethro Tull and Viscount Townsend. Tull did not publish until 1731, and his main contribution to agricultural science was an early form of mechanization; Townsend did not begin farming until 1730.¹⁷ We recognize now that the people who made advances in farming were the working farmers; their landlords had more leisure and resources to employ the printing presses. They were writing primarily to make a case, that Parliament should grant them compulsory powers to enclose for their own use land which was being used in common by other people.

There was indeed a relationship between turnips and pigeons, but it was not the one Cooke described. In 1780 Gilbert White wrote about pigeons in Hampshire: 'Of late years, since the vast increase of turnips, that vegetable has furnished a great part of their support in hard weather; and the holes they pick in these roots greatly damage the crop. From this their flesh has contracted a rancidness which occasions them to be rejected by nicer judges of eating, who before thought them a delicate dish'. He was writing of wild pigeons, but since his argument was that dovecote pigeons were genetically identical with wild rock doves their behavioural characteristics would have been the same.¹⁸ As will be shown, by the late eighteenth century other factors were at work to reduce the scale of pigeon-keeping.

The view that the rise of turnip cultivation directly brought about the decline of dovecotes was implied but not actually stated by Ferguson. In 1890 Watkins misquoted him as having said 'Mangel Wurzels killed them', and added: 'There is no doubt that since the general introduction of winter feeding for cattle, and the consequent abundant supply of fresh meat during that season, the demand for pigeons

has been greatly limited'—a classic example of the logical fallacy *post hoc, propter hoc*.¹⁹ He was wrong. In 1772, at the peak of 'the turnip revolution', George Cooke wrote of pigeons: 'The profits arising from these birds are not only very considerable, but are very certain . . . there is a constant demand for them'. The observation of a scientific farmer writing at the time is worth more than the retrospective judgements of a senior cleric and a photographer writing more than a century later. George Cooke's statement is supported by Thorold Rogers's records of prices paid, which show that in the period 1772–4 a dozen pigeons were worth from two to three shillings, when a man's common labour was worth 1s. 4d. to 1s. 8d. a day—in terms of the value of wages, a relatively higher price than was similarly recorded ninety years earlier. In 1798 Robert Lowe reported that a few years earlier, seven hundred dozen pigeons had been bought by one dealer in one day at Tuxford market, Nottinghamshire.²⁰

The information supplied by Watkins and Berkeley about the chronology of dovecotes directly contradicts Arthur Cooke's statement that the building of dovecotes began to decline with the 'introduction' of turnips in the early eighteenth century. In 1890 Watkins reported of Herefordshire that 'the custom [of building dovecotes] suddenly stopped in the beginning of the present century, for none appear to have been built since about 1810'. Berkeley wrote of the dovecotes of Worcestershire: 'None were erected after 1800'.²¹ It is a matter of simple observation to note that as many standing dovecotes derive from the eighteenth century as from any other; and more in the form of lofts combined with other buildings, they continued to be built well into the nineteenth century. An octagonal brick pigeon-tower at Battlesbridge, Essex, has the inscribed date 1819. In 1846 Charles Waterton demolished an old dovecote in his park near Wakefield because it had been robbed repeatedly and was too remote to be kept under supervision, and replaced it with a new brick pigeon-tower in the security of his farmyard. It came into use in March 1846, and by November of that year it had supplied him with over seven hundred squabs.²²

There is sufficient contemporary evidence to confirm that the building of dovecotes was not in decline at the period Arthur Cooke suggested. Certainly there were changes in design, and increasingly the new dovecote was considered as one element of a visually integrated group, demonstrating in itself all the latest refinements of architectural fashion; but it was not passing out of use as a serious food resource. *The Sportsman's Dictionary*, first published in 1735, defined the pigeon as 'a domestic bird, fed in order to be eaten'; it was reprinted in 1744, 1778, 1782, 1786 and 1792 with virtually the same text on pigeons, before being substantially re-written for the edition of 1807. In 1740 an anonymous author published *The Dove-cote: or, the Art of Breeding Pigeons*, a long poem in rhyming couplets devoted to very practical advice (some of which will be quoted later) on the siting, design, construction and management of dovecotes. In 1795 the architect John Plaw published a proposed design for a pigeon-tower as the centre-piece of a model farm, and in 1805 Joseph Gandy published three designs in which pigeon-lofts were structurally integrated with estate cottages.²³ However, by that time the scale of pigeon-keeping was changing.

HISTORICAL COMPARISONS WITH FRANCE

Ferguson and Berkeley correctly reported that in France the seignorial privilege of

keeping a dovecote, whose occupants fed freely on the crops of the peasants, was one of the issues which led to the uprising of 1789. Berkeley wrote: 'We are slowly growing awake to the rights of others. As standing memorials of the selfishness of the Church and land proprietors of long ago we need not be proud of them'. Cooke wrote of Britain: 'The dovecote, whence there issued with the dawn hundreds of birds who found their living in the fields, would be among those objects upon which reformers turned their eyes'.²⁴ Perhaps they were, but it would be complacent to suppose that that was why dovecotes passed out of use.

Britain did not have a revolution in 1789, and its social and agricultural history is quite different from that of France. The French Revolution brought about a period of extreme reaction in Britain. It is difficult to think of one reform in the period from 1789 to the 1820s which restricted the prerogatives of landowners; mostly they extended their privileges. Parliamentary general acts of enclosure dispossessed the last remnants of the independent peasantry and made them into landless labourers. They were replaced by highly-capitalized tenant farmers who could lease hundreds of acres. The high wheat prices of the Napoleonic Wars induced many landowners to farm their own newly-enclosed land. The articulate progressive farmers, whether tenants or landlords, became more aware of the depredations of dovecote pigeons because the losses were their own. Increasingly from 1800 the keeping of pigeons was reduced to a small-scale operation in which the birds were fed in the yard like poultry. Traditional dovecotes were either demolished, or reduced in capacity by the insertion of a floor. Some were replaced by new dual-purpose buildings of which only the upper stage was devoted to pigeons. Elsewhere, pigeon-lofts were inserted in the roofs of other farm buildings such as barns and stables.

The change in the attitude to pigeon-keeping can be seen in the farming literature of the time. In 1801 W.B. Daniel estimated the loss of corn to pigeons, although he conceded that they did some good also by eating the seeds of weeds. In 1805 John Boys reported that in Kent pigeons were 'not in such plenty as some years back; a number of pigeon-houses have been destroyed, on account of the mischief they do to the thatch as well as to the cornfields'. In 1808 Charles Vancouver, writing of Devon, also calculated the quantity of corn from all sources which pigeons ate in a year, and went on to describe them as 'voracious and insatiate vermin'. In 1810 St John Priest wrote of pigeons in Buckinghamshire: 'The injury done by them on the crops . . . more than counterbalances any advantage from their manure, or from themselves as food'. In 1825 J.C. Loudon wrote that pigeons were 'scarcely admissible in professional agriculture, except in grazing districts, where the birds have not so direct an opportunity of injuring corn . . . Pigeons are now much less cultivated than formerly, being found injurious to corn fields, and especially to fields of peas. They are, however, very ornamental; a few may be kept by most farmers, and fed with the common poultry'.²⁵ These excerpts describe the end of traditional pigeon-keeping on a major scale—relatively earlier in corn-growing regions, later in pastoral regions.

In 1549 the increase in the number of dovecotes in Norfolk became—with some more complex disputes about land—one of the causes of armed rebellion. The Kett rebels demolished a dovecote newly-erected by a lawyer on former chantry land at Sprowston, and included in their list of grievances: 'We pray that no man under

the degre of a knyghte or esquier keep a dowe house, except it hath byn of an ould aunchyent costume'. In 1577 William Harrison wrote of 'pigeons, now a hurtful fowl by reason of their multitudes, and number of houses daily erected for their increase'. In 1653 Samuel Hartlib calculated the quantity of corn eaten by pigeons, and concluded: 'There is no such enemy to the prosperity of England, of his bigness so little taken notice of, or that yields so little in return'. In 1669 John Worlidge wrote of pigeons: 'Therefore may we esteem these among the greatest enemies the poor husbandman meets withal; and the greater because he may not erect a pigeon-house, whereby to have a share of his own spoils, none but the rich being permitted so great a privilege; and also so severe a law being made to protect these winged thieves, that a man cannot *suum defendo* encounter with them'.²⁶ The damage which pigeons did to the fields of others was well understood in Britain centuries before the French Revolution, and was equally resented; but the use of dovecotes declined only when it became in the interests of their owners to reduce the scale of pigeon-keeping to that of farmyard poultry.

26,000 PIGEON-HOUSES IN ENGLAND?

In the last hundred years the statement has appeared over and over again in the dovecote literature that in the seventeenth century it was estimated that there were 26,000 pigeon-houses in England; it was repeated again as recently as in the *Transactions of the Ancient Monuments Society* of 1990. It is worth looking at the origin of this information. Ferguson quoted a passage in which W.B. Daniel, writing in 1801, estimated the loss of corn to pigeons: 'Hartbil [sic] in the *Legacy of Husbandry* calculates that there were in his time 26,000 pigeon-houses in England, and allowing 500 pair to each dovecote, and four bushels yearly to be consumed by each pair, it makes the whole of the corn lost to be no less than thirteen millions of bushels annually'. Berkeley picked this up in 1905, and wrote: 'I do not know if there was a census taken of dovecotes in 1651, but Samuel Hartlib, the friend of Milton, maintains that there were 26,000 in England at the time he wrote his *Legacy*'. This hint at a census—although there was no census—seems to have given the figure a spurious authority. Cooke took it straight from her work: 'We have it on the word of Samuel Hartlib, Milton's friend, that towards the middle of the seventeenth century the number of English dovecotes was estimated at twenty-six thousand'.²⁷ Alas, we do not.

Hartlib's *Legacy of Husbandry* was first published in 1651; as he freely acknowledged, it was a posthumous publication of a text written in 1645 by Sir Richard Weston dealing with the methods of farming he had observed in Brabant and Flanders. It was frequently reprinted. There was no mention of dovecotes, nor was there in the second edition of 1652. So how did this fallacy arise? In another work of 1653, *A Discoverie for Division or Setting out of Land*, Hartlib argued persuasively that pigeons consumed more corn from all sources than their value or manure merited; part of his text has been quoted above. He made an estimate of the number of *pigeons*, that there were as many pairs as there were men, women and children in England (which contemporary calculations suggest was about five and a half millions), but he did not attempt to quantify the pigeon-houses.²⁸ Hartlib's publications on agriculture attracted much interest, and in the 1655 edition of the *Legacy* a long section was added

comprising 'Annotations', that is, the reports and observations of correspondents. Two of these were concerned with pigeons, and attempted to calculate the number of pigeon-houses in England. They were unsigned, but both appear to be by Cressey Dymock, written a few years apart. In the first the writer offered a more exact figure than has gone into the modern literature, for it came out at 28,599; the second gave the total as 24,000. His method is interesting, and deserves the attention of modern statisticians. From his knowledge of Cambridgeshire he estimated that on average there were three pigeon-houses in each parish; he multiplied this by the number of parishes in England (excluding London), and thus produced a national total. One might reasonably criticize his method as taking the use of extrapolation to the point of absurdity. It is open to doubt whether he was right even about his own county, for Cambridgeshire was not a homogeneous agricultural region. In the simplest terms it could be divided into two distinct parts, anciently established arable land in the south, and partly-drained fenland with small areas of high land in the north. A modern survey of Cambridgeshire dovecotes by Peter Jeevar shows that most of them are in the southern part. Apparently Dymock based his estimate on this part, but he included all the 163 parishes in the county to calculate his national total. If his calculation began with a discrepancy of this magnitude, and he then multiplied the resulting error by a factor of over 58, how much confidence should we place in his total? He tacitly assumed that parishes were much the same size all over England, and that each contained about the same number of dovecotes, 'taking one with another', but the size of parishes varies widely from county to county, and so does the number of manors in a parish which had the right to erect a dovecote. (In Worcestershire Cooke reported six dovecotes in one parish, and C.J. Bond reported five in another.) Dymock went on to say that some townsmen exercised the right to maintain a dovecote on the basis of a few acres of arable land, and that others exercised that right without any land at all. In Cavendish, Suffolk, there were thirteen manors in one parish, all of which could claim the right to erect a dovecote.²⁹ Dymock's estimates were wildly unreliable when they were written; the figure of 26,000 which has gone into the modern literature, and which does not correspond with either of them, has even less authority. Samuel Hartlib is rightly venerated as a pioneer of English scientific journalism, and his contribution to agricultural science was formally recognized in his own time by Parliament. All that can be said of Dymock is that he wrote to Hartlib.

Cooke further confused this estimate by stating on another page that it was written four hundred years earlier, that is, about 1520. Other writers have added to the confusion by misquoting Cooke. Jeevar attributed this estimate to the year 1800. In 1988 Alan Whitworth, who described himself as founder of the British Dovecote Society, wrote that 'by the 18th century over 26,000 dovecotes were recorded in England alone' (my italics). By the simple process of repetition a corrupt version of a wild guess made in the seventeenth century has become the most respected statistic in the modern literature; Whitworth has promoted it to the status of an exact record.³⁰

In fact the means existed in Dymock's time to make reliable calculations of the number of dovecotes, at least in the southern counties. From 1561 agents licenced by the Privy Council had had the power to enter any dovecote to remove accumulations

of dung, and to dig up the earth floors, for use in the manufacture of saltpetre for gunpowder. By the early seventeenth century the abuses and extortions practised by 'the saltpetre men' under these powers had made it a contentious political issue, and when the monopoly was renewed attempts were made to reduce the nuisance by limiting their visits to fixed intervals. By this time the collection was directly controlled by the Crown, which implies that official records were kept of the locations of dovecotes and the dates on which they were visited—at least within an economic distance from the centre of the gunpowder industry in Surrey. In 1641 James I was compelled by Parliament to revoke the profitable monopoly on gunpowder, and thereafter most saltpetre was imported. At the time of the Commonwealth, Crown records became accessible to Hartlib and his circle, but there is no indication that Dymock or anyone else attempted the enquiry.³¹

THE 'RAT-LEDGE' OR 'RAT-COURSE'

The upper parts of some dovecotes are surrounded by wide ledges; others have shallow string courses at storey intervals, similar to those which can be seen on public and domestic buildings of equivalent architectural styles. Cooke propounded an idea which has fascinated later writers when he stated that in both cases their purpose was to prevent 'vermin'—and he meant and said rats—from climbing up the walls to raid the pigeons and their eggs. His text appears to derive this information from Varro's *On Farming, Rerum rusticarum*, and from observation of dovecotes in France, but as will be shown, this idea was developed by Watkins in the late nineteenth century. The enemies of pigeons which Varro was most concerned about were crows and hawks. Other undesirables he mentioned were lizards, snakes and mice, though he regarded them simply as creatures which might disturb the birds. He wrote (in the translation by Storr-Best): 'Inside, every part of the walls and ceilings is coated with the smoothest possible cement made from marble; outside, too, the walls in the neighbourhood of the windows are plastered over to prevent a mouse or a lizard creeping by any way into the pigeon cotes, for nothing is more timid than a pigeon'. He gave much the same advice about housing for peacocks, that they should have 'separate sleeping places having a smooth coating of plaster to prevent a serpent or other animal getting in'. Lizards do not attack birds or eat their eggs; as will be shown, the rodent which Varro identified as *mus* was not a predator upon livestock either. Varro's meaning has been variously interpreted by various translators from the sixteenth century onwards; I take him to mean that the purpose of the plaster was to prevent reptiles and mice from penetrating and occupying interstices in the stonework and disturbing the birds. Certainly it is difficult to see what plaster on the *ceiling* has to do with preventing rats from climbing the structure. The best plaster available was made from ground white marble. Columella also advocated the use of white plaster, but he gave a different reason for using it (in the translation by Forster and Heffner): 'The whole place and the pigeon cells themselves ought to be finished off with white plaster, since birds of this kind take a special pleasure in that colour; also the walls ought to be made smooth outside, particularly round the window'. He did not mention predators or vermin in this connection, and he did not mention quadrupeds at all; he warned about hawks three times. Pigeon-keepers from the earliest times have known that

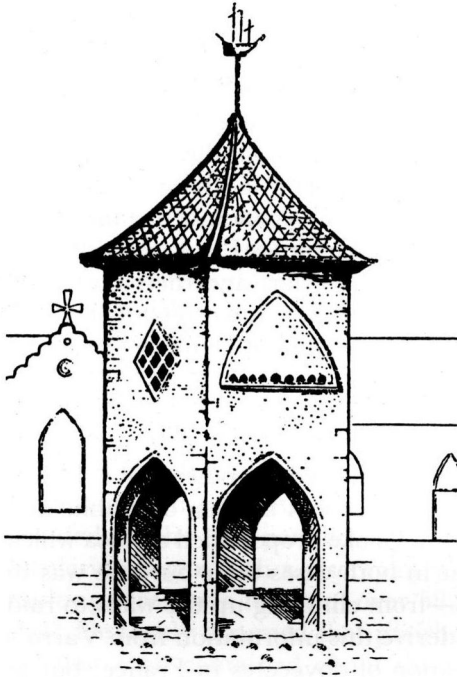


Fig. 1

Arthur Cooke's illustration of the dovecote at Megginch Castle, Perthshire, as used on the front cover of *A Book of Dovecotes*

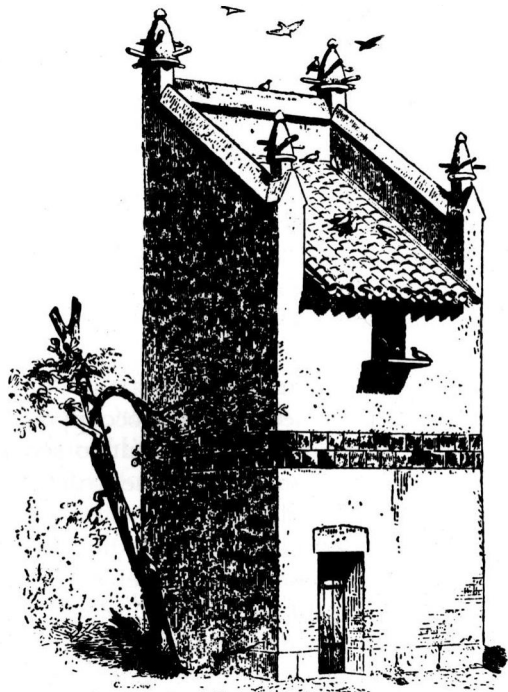


Fig. 2

Arthur Cooke's illustration of a lectern dovecote of southern France

pigeons are attracted by white surfaces, and it has been standard practice to renew the whitening at frequent intervals, but mostly they have used limewash or white paint. For instance, Ovid (in Charles Waterton's translation) wrote:

*See, to the whitewash'd cot what doves have flown
While, that unwhitewash'd, not a bird will own.*³²

In the building technology available to Varro and Columella, a more permanent and probably whiter surface could be achieved by the use of this plaster. Cooke read it differently, to mean that the purpose of the plaster was 'so that no foothold might be offered to small climbing animals'.

Cooke attributed the kind of French dovecote which stands on pillars to the need to protect the pigeons against climbing vermin: 'Each pillar capital had a *larmier* or coping over it, which it was almost impossible for rats or similar invaders to surmount'. His text is confused at this point, for he wrote *colombier à pied*, although an earlier passage indicates that he meant to write *colombier sur piliers*. His argument begins with self-contradiction, for on the front cover of his book he illustrated a dovecote of this type at Megginch in Perthshire; it has no trace of *larmiers* or other defences against climbing vermin (Fig. 1). He also explained that this type of dovecote was exempt, in most parts of France, from the restrictions which limited the privilege of building a dovecote to certain defined classes of *seigneurs*. He seems not to have realized that this was a sufficient reason for others, who lacked that status, to build dovecotes in this form.

He continued: 'Another method was to insert in the external surface of the walls a course or two of highly polished bricks or tiles, too slippery for feet and claws to grip. This method, not without value as an ornament, was frequently employed in Languedoc. Still more common was the application of a broad string-course to the wall'. He illustrated a lectern cote with two courses of tiles at half-height (Fig. 2), and a cylindrical cote encircled by two ledges above half-height (Fig. 3).³³

Cooke's interpretation of these architectural features has been accepted so readily in the modern dovecote literature that it seems almost irreverent to question it; still, certain questions keep springing to mind. If *larmiers* are necessary to prevent rats from climbing a dovecote on pillars in France, what prevents rats from climbing a similar dovecote without *larmiers* in Scotland? A 'rat or similar invader' trying to climb the walls of the lectern cote illustrated would have to ascend twelve or thirteen feet up a smooth vertical surface to reach the pigeon entrance, even if it were not for the band of glazed tiles. A rat trying to ascend the round tower would have to climb over twenty feet to the parapet. Are we quite sure that the rats which prey upon birds and their eggs can climb hard masonry to these impressive heights? In both cases, would not the door at ground level provide a more vulnerable point of access? If a band of glazed tiles is necessary to protect dovecotes from climbing vermin in Languedoc, why has no equivalent band of tiles been reported on any British dovecote? Could it be that Britain has a different decorative tradition? Or could the slippery tiles be to prevent lizards ascending the wall and disturbing the birds? Lizards are not a problem in Britain. And if it is necessary to have protective devices such as ledges or bands of glazed tiles on the walls to prevent rats from climbing their sheer masonry surfaces, why do they not climb into our unprotected houses? Is it possible

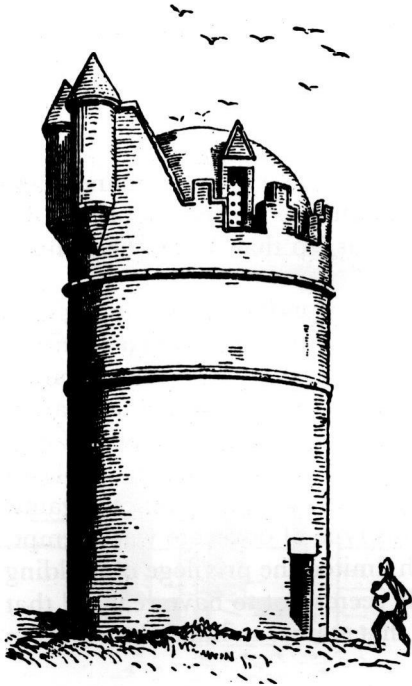


Fig. 3
Arthur Cooke's illustration of a cylindrical dovecote
of southern France

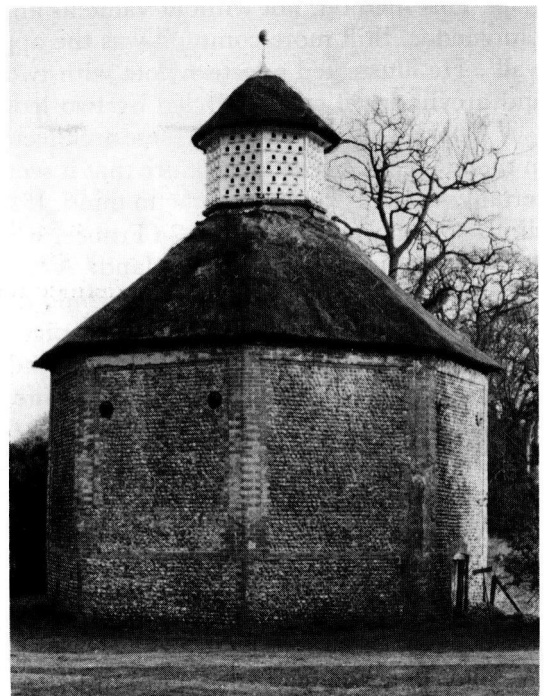


Fig. 4
Octagonal dovecote of brick and flint at
Rougham Hall, Rougham, Norfolk, from
the north, designed by Roger North in
1698. The roof and cupola were rebuilt
about 1906, when some of the internal
features were removed

that Cooke was no better informed about the climbing abilities of rats than he was about the annual breeding-cycle of pigeons?

VERMIN

Twentieth-century man assumes too readily that the word 'vermin' means rats. Etymologically it derives from worms, but by extension it came to mean any other kind of parasite. It is a judgemental word, meaning any kind of creature which the user chooses to regard as harmful. As used by those who wrote about pigeon-keeping, at every historical period, 'vermin' always meant primarily birds of prey, which twentieth-century man regards as rare and valuable, and which are now protected by law. The contemporary literature identified buzzards, kites, kestrels, hawks, owls, crows and jackdaws as 'vermin'. Another class of harmful creatures comprised weasels, stoats, polecats and martens—a genus of carnivores whose ability to climb made them formidable marauders of dovecotes. In a third category were domestic cats, about which the same could be said (although Daniel Girton in 1785 described a way of training a cat not to molest pigeons, while guarding the dovecote against rodents; it accounts for the cat-holes in dovecote doors which are sometimes found, which puzzle modern observers).³⁴ Last in this classification of harmfulness were those creatures which did not actually prey upon pigeons or their eggs, but which might

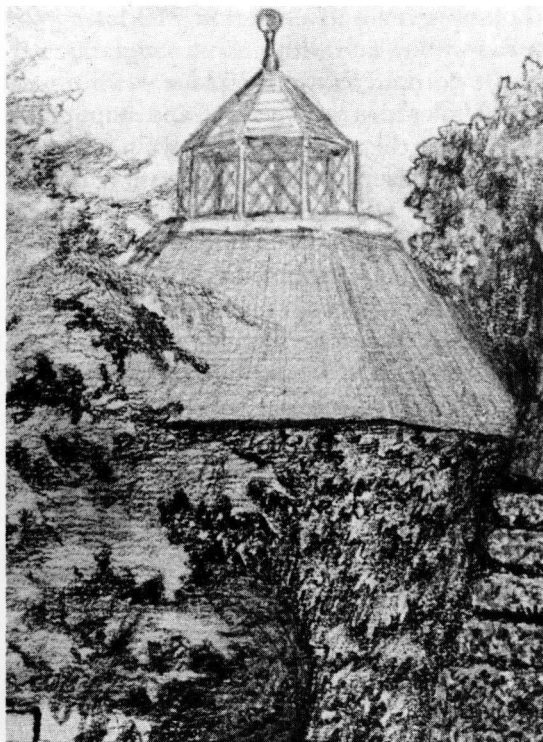


Fig. 5
The original cupola at Rougham as
described by Roger North, drawn in 1891
by Miss A.L. North
T. North

disturb birds which all writers agree were very easily disturbed. This seems to account for Varro's references to lizards, which in Mediterranean countries occupy the interstices of stone walls, climbing easily on surfaces which other creatures cannot climb. Mice would be in the same category, not directly harmful to pigeons, but possibly tending to disturb them, and always ready to eat the food put out for them. Exactly what Varro and other classical authors meant by the word *mus* is open to discussion. Certainly it included 'mouse', but opinion is changing on whether it also meant 'rat'. Seventy years ago, historical naturalists could assert confidently that rats were unknown in classical Rome, and translators rendered *mus* as 'mouse'. Now some believe that the 'black' rat, *Rattus rattus*, had been introduced to the Mediterranean region at that period, unrecorded in the literature except by the generic term *mus*. It does seem strange that a language which is often praised for its precision was unable to distinguish between mice and rats, but apart from two references to *majores mures qui vulgariter rati vocantur* (greater mice which are commonly called rats) by Giraldus Cambrensis in the twelfth century, sources in Latin are unhelpful on the question.³⁵

In English historical sources on pigeon-keeping rats were hardly mentioned before 1735; evidently they were not considered to be particularly harmful to pigeons, although they were pests in other contexts. To this there are really only two exceptions, and they are both English translations from the same French original of 1570 by Charles Estienne, who in turn took his text from Varro—but he elaborated it. The earlier translation, by Leonard Mascall in 1581, was included in a book about the management of poultry, which accounts for his reference to a hen-house: 'Make your house sure at the foundation, and wel plastered within, and with smooth stone couched close in the bottom, for feare of their dongue do not corrupt the place which must be fayre and even within, and the chapt and holes alway seene too, and stopt close for feare of Weesels, polecats, rattes and mice, for these doe commonlye happen in douehouses which are not well seene to. Ye shall dresse your Douehouse without, close made, for in Crevisses and crackes, vermine will seeke to enter, and so will devoure both olde and yong doues, for the like daunger is in a douehouse, as in a henhouse . . . alwayes see to your Douehouse, that none of these evill vermine aforesayde haunt your house, for they will scare the old, and devour the yong'. The other translation was by Richard Surfleet in 1600, and it covered the same ground. Mice do not devour young pigeons, so here they must be included among those 'vermin' which might scare the adult birds. As will be shown, the same applies to the species of rats which was known in France and Britain in the sixteenth century.³⁶

RATTUS RATTUS AND RATTUS NORVEGICUS

The 'black' or 'ship' rat, *Rattus rattus*, was established in Britain long before any of the existing dovecotes were built. There is sufficient archaeological evidence that it was present in York and London before the end of the Roman occupation. There is some reason to believe that it carried to Britain the plague which devastated Justinian's armies in 542 A.D., although at that time it may not have been established outside the towns. It was the means by which the Black Death was carried rapidly round Britain, from its arrival at Melcombe, Dorset, in June 1348, to cover the whole of

England and Wales in 1349, and Scotland in 1350, the speed of spread indicating that by then the rat population was established everywhere. *Rattus rattus* was indigenous to south India; it was carried to the Mediterranean and to Britain along the trade routes. In its native habitat it is an arboreal creature, a highly-accomplished climber. In a temperate climate it cannot survive except as a parasite on man. It adapted easily to man's world by climbing up timber buildings, nesting in thatched roofs, and feeding on his grain and crops. Even today, where it is found at all in Britain, it is always found living high in buildings. It does not burrow, and it cannot gnaw through building materials. There is no convincing evidence that it has ever done any harm to pigeons, except by eating their food and possibly disturbing them.

The attitude of pigeon-keepers towards rats changed entirely with the arrival of a new and highly predatory species in the eighteenth century. *Rattus norvegicus*, the 'brown' rat, is indigenous in Central Asia. For unknown reasons it spread westwards in the eighteenth century, vast numbers crossing the River Volga in 1727. An advance party had reached Copenhagen in 1716 aboard ships of the Russian navy. Despite the misleading specific, bestowed before its origin was understood, it was unknown in Norway until long after it reached Britain. There is little doubt that it was carried to Britain aboard ships from Russian ports. The date of its arrival is unknown and highly controversial, but it can be narrowed down to two or three decades. If it had been known in Britain in 1693 it would have been classified by the naturalist John Ray, but he wrote simply of 'the Rat'; he lived until 1705 without mentioning it in print. Enemies of the Hanoverian monarchy chose to describe it as the 'Hanoverian rat', and asserted that it was introduced to Britain by the ship that brought George I, but this was simply political propaganda; there is no evidence that it came from Hanover or had any other connection with the Hanoverian dynasty. Many naturalists who have studied the historical evidence believe that it arrived in 1728 or 1729.³⁷

It is therefore particularly unfortunate that an important source, *The Sportsman's Dictionary*, first published in 1735, has been consistently misrepresented in the dovecote literature as having been published in 1725. Ferguson indicated that he knew the 1778 edition, but it was Watkins who first gave it the erroneous date 1725. Berkeley copied the error from him, and to my knowledge every subsequent author who has mentioned the work at all has copied out the same erroneous date, although any of them could have found the correct date in the British Library or *National Union Catalogue*, which are widely available in reference libraries. The date of publication is important, for it was this author who first advised pigeon-keepers to instal elaborate protective devices against marauding rats, as would be very likely if a new predatory species had arrived in Britain only six or seven years earlier.³⁸

Rattus norvegicus has entirely different behavioural characteristics from its predecessor. In its native habitat it nests below ground, and as a parasite on man it has followed the same practice. It enters buildings through drains, by burrowing under the floor, or by gnawing through the lower structure. When one rat has found the way into a building, invariably others will follow. It is a formidable destroyer of livestock: there are some reports that rat invasions have killed every bird in a poultry-house, while eating only a few of them. It always tries to take food back to its burrow,

and will drag heavy objects for considerable distances. It can climb soft materials like rope and timber, but there is no satisfactory evidence that it can climb hard masonry; most of the anecdotal evidence of extraordinary climbing feats can be attributed to the presence of ivy or other creepers, or to timber or rubbish stacked against the walls. The same writers who believe that it can climb twenty feet up the outside of a masonry dovecote accept that on the inside, within sight of its prey, it is defeated by an ascent of four feet. When this formidable predator first appeared in Britain it was not at first recognized as a distinct species, and certainly its behaviour was confused with that of the more familiar species. What one finds in the literature of the period is simply a new awareness of the hazard from rats. Colour is not a reliable guide to identification, for 'black' rats go through a brown stage when young, and black individuals have been found among the 'brown' species.³⁹

The anonymous author of *The Dove-cote*, published in 1740, recognized the new hazard from rats, but regarded it as still restricted to the towns:

The City's odious to the harmless Dove;
Business suits ill with Innocence and Love.
Beside, in Towns the Rat's insidious Kind
Too often in the Cote an Entrance find;
Break the thin Eggs, and make with fruitless Pain
*Th'eluded Mother sit whole Months in vain.*⁴⁰

In 1748 the Swedish biologist Pehr Kalm was shown 'Hanoverian rats' infesting a water-mill near Dunstable, Bedfordshire, evidently considered to be a remarkable new phenomenon.⁴¹ In Henry Fielding's novel *Tom Jones*, Squire Western mentioned 'Hanover rats'; it was published in 1749. *R. norvegicus* infested Selkirk in 1776, and was advancing through the southern counties of Scotland until the 1790s, but it was still unknown in rural parts of Angus and Moray in 1813. Wherever it spread, *R. rattus* soon became extinct, because the newcomers competed more aggressively for the same resources. They could live in the fields and ditches between human settlements, but *R. rattus* could not survive except in the vicinity of man. By 1776 *R. rattus* was already rare in England, and by 1783 it was reported to be unknown in fifteen English counties. By the middle of the nineteenth century it was virtually extinct in Britain, except for periodic new introductions in the ports.⁴² This chronology has important implications for the study of dovecotes. To take just one example, in Moray nearly all the dovecotes described by Elizabeth Beaton as having 'rat-ledges' were built before there was any hazard from rats in the area.⁴³

In 1577 Googe discussed the danger to pigeons from hawks, buzzards, and kestrels, and continued: 'They have many other adversaries, Crows, Daws, and Owles, which all destroy the Pigiens, specially when they breede'. Taking an idea from Palladius, he advocated a barrier of thorns for protection against 'Weasels, Stoates, and such like', but there is no mention of defensive devices against rats, nor of rats at all. Richard Blome, discussing the destruction of vermin in general in 1686, wrote that 'Pole-cats, fitchets, weasels, and the like vermin, are great enemies to the hen-roosts, dove-house and warren', but he described rats as the enemies of houses, granaries, barns, stables, gardens, orchards and field crops, indicating that he did not regard them as predators upon livestock. In 1698 Roger North discussed in great

detail the design of a brick and flint dovecote he was building at Rougham, Norfolk. He described hawks as 'the desparate enemys of these poor birds that inhabite with us', and he considered them both in choosing the site and designing the building, but he did not mention rats. If rats are able to climb vertical walls of masonry there was nothing to prevent them from climbing to the thatched roof (the dovecote still exists, Fig. 4). In John Moore's *Columbarium: or the Pigeon-House* of 1735, which is mainly about fancy pigeons kept in lofts, the only predators mentioned are cats.⁴⁴

However, in the same year a quite different note of alarm was introduced into the literature by the anonymous author of the sections on pigeon-keeping in *The Sportsman's Dictionary* (it is convenient to call him Sportsman). He proposed a number of defensive devices against rats, but he seems to have been unaware that he was dealing with a new species with different behaviour from the more familiar 'black' rat. He recommended various means by which rats could be prevented from climbing up the outside of the dovecote, entering at the flight-hole, and descending to the nests. He said the nest-boxes should stop three feet short of the roof, which was to sacrifice a lot of capacity (less than forty years earlier Roger North had maximized the capacity of his dovecote by extending the nest-boxes three feet above the walls, right up into the roof). They were to be protected 'with a board a foot and half broad, and set slanting, for fear the rats, which may happen to come down from the top, may get in to them'. The flight hole was to be protected by a 'portcullis . . . something larger than the window or aperture, which should be garnished within with tin, well fastened to the wall, to keep the rats from coming up', which was to be closed every evening and opened every morning by a rope over a pulley. On the design of dovecotes, 'the round is to be preferred before the square ones, because rats cannot so easily come at the one as at the other'. Some of these elaborate precautions would have been unnecessary if his most-quoted protective device had been effective: 'Now to hinder rats from getting upon the outside into a pigeon-house, they fasten tin plates to a certain height, and in such places where they foresee the rats might pass, at the outward angles of a square pigeon-house; these plates ought to be a foot high, and raised above half a foot on the sides, so that when the rats come to them and cannot catch hold of them, they fall upon the iron spikes which are usually fixed at the bottom, or the place where you foresee they may fall'. This passage, first quoted by Watkins, and repeated many times since, has generated so much mythology that it has been given in full; it will be considered again later.

One of the recommendations of Sportsman did recognize the new problem posed by *Rattus norvegicus*: 'The first range of these nests, be they made as they please, must always be four foot distant from the ground, so that the wall underneath being made very smooth, the rats may not be able to get in'. The new species differed from the old in being able to burrow under walls (if not deeply founded) and to gnaw through many conventional building materials as well as in being voracious predators upon livestock. Evidently there was a period of confusion in which pigeon-keepers adopted protective measures which were not really relevant to the new hazard, but eventually this last means of protection was generally adopted.⁴⁵

Recorders of dovecotes seem to have overlooked the usefulness of this part of Sportsman's advice, for in some cases it enables dovecotes of unknown origin to be

dated to before or after the introduction of *Rattus norvegicus*. For example, Ferguson dated an octagonal stone dovecote at Hutton-i'-th'-Forest, Cumberland, on rather insubstantial grounds, to the period 1661-97 and he stated that the architect was Inigo Jones who had died in 1652. Unlike some of the other dovecotes he recorded this one had nest-holes raised four feet from the ground . . . which could have told him that it was built after 1735 and perhaps some considerable time after that.⁴⁶ Cooke wrote about a beehive cote at Freswick, Caithness, and said that the nest-holes began at a height of seven feet as a defence against the 'Hanoverian' rat. Did he really think beehive cotes were still being built in the eighteenth century? Evidently he never went there, but misunderstood information from a correspondent, for he described it as on the island of Stroma, whereas Elizabeth Beaton has recorded it far away on the mainland. She found too that Cooke was wrong about the nest-holes; they start at ground level, but the lower tiers have been blocked.⁴⁷

Although Sportsman was intensely aware of the need to protect dovecotes from rats, he made clear that external ledges were provided for another purpose: 'The pigeon-house should have two cinctures built without, either of free-stone or parget, one of which is to reach to the middle of the pigeon-house, and the other under the window, through which the pigeons go in and out; these two enclosures are made on purpose that the birds may rest upon them when they return out of the fields'. Nothing could be more specific.

In the entire contemporary literature on pigeon-keeping I can find only one passage which attributes a defensive function to external ledges, and that was not against rats. It is in the text by Estienne (and its English translations) from which Sportsman took some of his ideas. Estienne wrote that around the building there should be two *ceintures*, and he offered two reasons for them, to prevent martens, weasels and cats from climbing the structure, and for the pigeons to sport and display on.⁴⁸ That the perching function was the more important of the two can be deduced, firstly, from the fact that it was the only one adopted by Sportsman, and secondly, from the positions in which external ledges occur, always high on the structure.

Granaries need to be protected against climbing rats, but the rat-defence is always at the base, below any door or window apertures which a rat might try to penetrate. Most dovecotes have the door at or near ground level, below the alleged 'rat-ledge', and many have windows below it too. The provision of two, three or four wide ledges of similar design, one above another—a very common feature of Scottish dovecotes—is simply illogical in terms of protection. If a climbing rat somehow managed to surmount the lowest ledge—it is not clear how—then it could employ the same agility to surmount the others. But in any case there is usually an entrance for pigeons immediately above the lowest ledge, which evidently defeats the hypothetical defensive value of the higher ledges. Many dovecotes have a ledge on the south elevation only, or on three sides of a rectangular building—very common on Scottish lectern cotes. Bailey and Tindall, in a paper dealing mainly with dovecotes of East Lothian, reproduced three photographs of square dovecotes in the south of France; one has a ledge all round, the others on the south side only.⁴⁹ Many British dovecotes have wide ledges high on the gables, above the eaves or any access point which a climbing predator might have any incentive to reach. These too are common on the wedge-shaped end walls

of Scottish lectern cotes. Many dovecotes do not have external ledges at all. Should we conclude that their owners did not mind their pigeons being raided by rats? Or should we conclude that that is not what the ledges were for?

If I now take particular examples from publications it is merely to illustrate the argument; I intend no disrespect to their authors, whose other observations are valid. Elizabeth Beaton, in *The Doocots of Moray*, describes every ledge in the appropriate caption as a 'rat ledge', and says: 'Deep ledges of stone or slate encircle most cotes and were intended to deter rats from climbing to the pigeon entrances. Sometimes these *rat ledges* are decorated with mouldings on the underside, as at Gordonstoun (beehive cote). They also serve as alighting ledges for the birds'. That the latter was their only function can be demonstrated by their positions in relation to apertures. At Gordonstoun beehive cote there is a pigeon entrance immediately above the lowest of four encircling ledges, and at Gordonstoun (Windmill) cote there is a window far below the lowest of three encircling ledges. At lectern cotes at Burgie, Findrassie, Knockando, Leitcheston and Miltonduff there are ledges round three sides only, ceasing at eaves-level on the low south side, although it might seem that the eaves would be particularly vulnerable to the entry of rats. In some cases the building is decayed, and it could be argued that the ledge surrounded the whole building earlier, but that it is incomplete now; however, the coursing and quoins show that there never was an equivalent ledge on the south side. Burnside of Duffus has no ledge. Hazelwood, Mains of Seafield, and Urquhart Manse have only short steps immediately below the pigeon entrances. Dalvey, Knockando and Leitcheston have ledges high on the end walls, well above eaves level, which prompts the question, where exactly were these hypothetical rats thought to be going, when they had already passed the pigeon entrances? Did they attempt a difficult ascent simply 'because it was there'?⁵⁰

In *Scottish Doocots* Tim Buxbaum says of beehive cotes: 'Vermin were deterred from climbing the walls by projecting stone "rat courses", which had some ornamental value'. Of Dolphinton beehive cote he says: 'The stages are separated by rat courses', but his photograph shows a window aperture above the lowest ledge. On lectern cotes he accepted that external ledges 'could also be used as alighting ledges for birds', but he still called them 'rat courses'. In every example illustrated there are door or window apertures below the ledges.⁵¹

Turning to some English examples in *Dovecotes* by Peter and Jean Hansell, they say of the round stone dovecote at Garway that the wall is 'encircled on the outside by a string course to deter climbing creatures such as rats', but they do not comment on another round stone cote at Quenington Court, illustrated beside it, which has a wide encircling ledge but with an original loop aperture below it; nor on other round stone cotes at Dunster, Little Badminton and Norton-sub-Hamdon, which do not have any ledges. They illustrate a rectangular stone dovecote at Lower Slaughter, and draw attention to 'the pronounced string-course to discourage climbing predators', but next to it they show a square dovecote at Naunton at which a similar string-course is interrupted by a window, and which has other string-courses high on the gables, and other rectangular stone cotes without any ledges at Snowhill Manor and Willington. Other dovecotes have string-courses flush with the wall surfaces above and below, merely picked out in a different material to 'read' as storey divisions—

ashlar against harled rubble at Westburn House in Buxbaum's work, or brick against coursed flint at Newtimber Place in the Hansells'.⁵²

It is remarkable that some writers have carefully reported what Cooke said about string-courses being defensive devices, when their own examples do not support his thesis. For example, in 1974 J.E.G. Caiger wrote: 'A projecting course of brick or stone was usually placed around a pigeon house to prevent rats and other vermin from gaining access to the birds and eggs within', although two of the three dovecotes described did not have a projecting course of any kind, and the third had one which was obviously an architectural embellishment. In 1937 G.W. Copeland wrote: 'A broad string-course, or two or three courses of glazed bricks or tiles, round the exterior successfully prevented the ingress of any vermin', although none of the dovecotes he described in Devon had any equivalent feature to prevent the ingress of vermin. In 1988 Alan Whitworth described a square stone pigeon-loft at Sandford Orcas, Dorset, as having 'a rat ledge at first-floor level to prevent rodents from climbing the outside stone walls and ravaging the birds and eggs', although none of the other cotes he illustrated had a similar ledge: even at Sandford Orcas the ledge is above the first-floor doorway, quite useless for the purpose described. It does, however, serve very well as a perching-ledge.⁵³

PICTORIAL EVIDENCE

It is interesting to look at illustrations of dovecotes in Flemish breviaries, meticulously drawn as part of working farmyards in the fifteenth and early sixteenth centuries, and at other continental illustrations of the same period, for we have no equivalent painting tradition in Britain. The Grimani book of hours of the early sixteenth century shows a cylindrical stone dovecote with a tiled conical roof on the edge of the farmyard. A set-back in the wall thickness produces a shallow platform all round, just above the ground-floor door, with buttresses abutting upon it and pigeon entrances opening on to it. There is no overhang, nothing to prevent rats from ascending to the platform and so to the interior, except the hard masonry surfaces. Higher up, the cote is encircled by two wide ledges supported by a timber structure, with more pigeon entrances opening on to them. Pigeons are shown in flight, feeding on corn on the snow-covered yard, perching on the roof of the cote and on other roofs nearby, and on the upper ledges. Other dovecotes illustrated are built above pigsties, with nothing to prevent rats climbing the walls except their own masonry surfaces. One, of the early sixteenth century, has a row of pigeon entrances just below the eaves, no ledges on the walls, but a set of three ledges mounted on the steep thatched roof, with pigeons perching on them. Similar ledges mounted on the roof of a dovecote are shown in Rogier van der Weyden's 'Adoration of the Magi', with pigeons perching on them. The date of the painting is unknown, but he lived from 1399 to 1464. Another of these combined buildings of the early sixteenth century has a door at first-floor level, and immediately above it a wide sloping ledge surrounds the building. If there had been any necessity for defence against climbing rats it could have been placed below the entrance. Pigeons are shown perching on a higher ledge, and on the roof of a barn opposite. The earliest printed book on agriculture, *Liber ruralium commodorum* by Piero de' Crescenzi, has in the 1495 edition, printed in Venice, a woodcut showing a farmyard with a tall

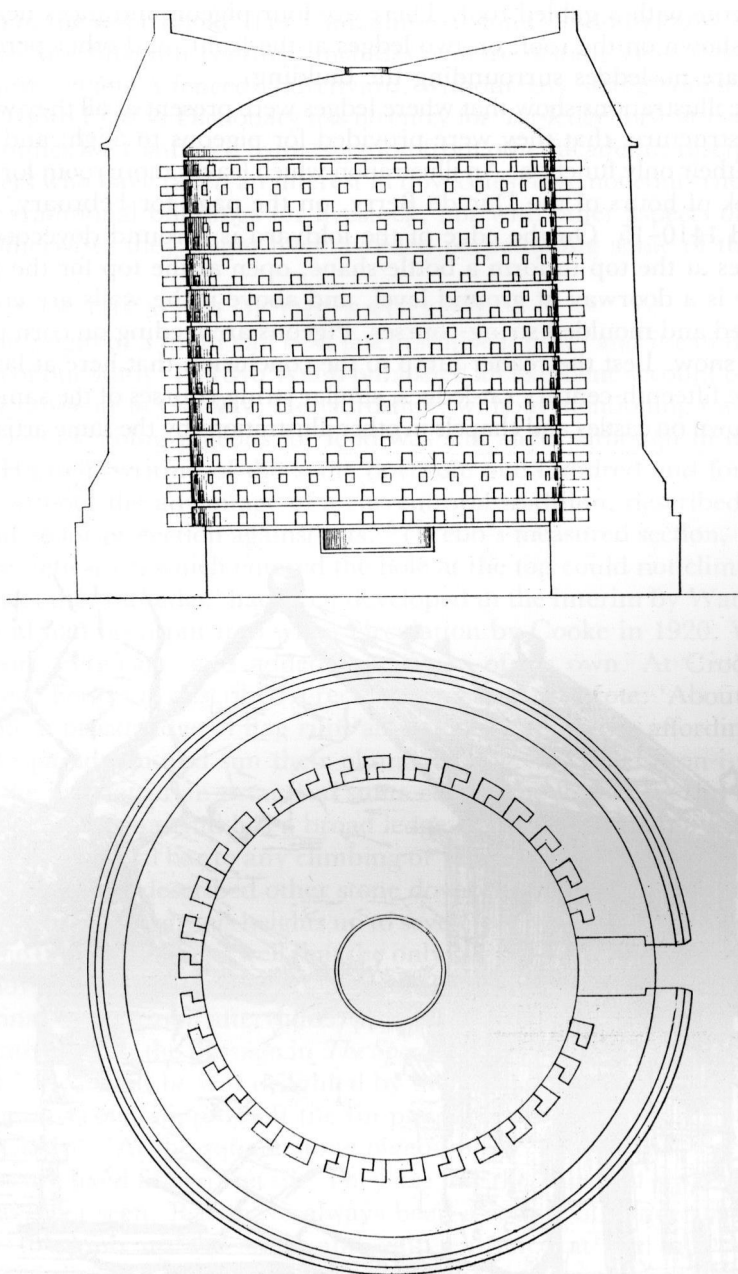


Fig. 6

Measured sections of the Knights Hospitaller dovecote at Church Farm, Garway, Herefordshire, dated by inscription to 1326. Surveyed by George Pearson, architect, for the Reverend John Webb.

From Archaeologia, 31 (1846)

square dovecote with a gabled roof. There are four pigeon-entrances near the top; pigeons are shown on the roof, on two ledges at the front, and other perches at the sides; there are no ledges surrounding the building.

All these illustrations show that where ledges were present at all they were placed high on the structure, that they were provided for pigeons to alight and perch on, and that was their only function. An illustration which leaves more room for discussion is in the book of hours of the Duc de Berry, on the page for February, attributed to the period 1410–15. On the edge of the foldyard is a round dovecote of ashlar which reduces at the top to form a bottle shape, open at the top for the pigeons to enter. There is a doorway at ground level, and above it the walls are encircled by two weathered and moulded string-courses. Pigeons are feeding on corn put out for them on the snow. Lest the reader jump to the conclusion that here at last we have some genuine fifteenth-century rat-ledges, similar string-courses of the same moulded profile are shown on castles and chapels in other illustrations by the same artist. Another

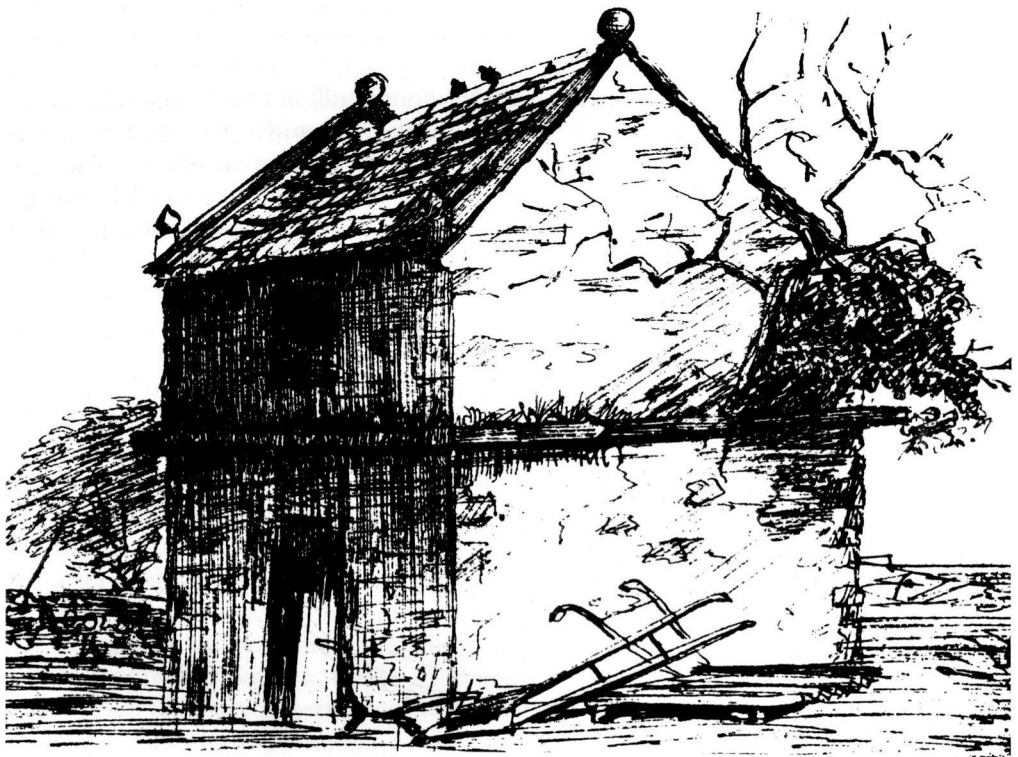


Fig. 7

Ferguson's illustration of a stone dovecote at Crookdake Hall, Cumberland, dated by inscription to 1686.

From The Archaeological Journal, 44 (1887)

illustration in the same book, 'The Canaanite Woman', but attributed to a different artist of the late fifteenth century, includes a more distant view of a very similar dovecote just outside a fenced churchyard, without any string-courses.⁵⁴

The Oxford English Dictionary has no entry for 'rat-ledge' or 'rat-course'. English dovecote studies have suffered from isolation from other academic disciplines. Many of the writers who have taken an interest in dovecotes have not concerned themselves with other traditional buildings for livestock, nor with other aspects of agricultural history. Otherwise, they might have avoided perpetuating some of these fallacies.

THE ORIGIN OF THE MYTH OF THE 'RAT-LEDGE'

Tracing the origin of a myth can be a fascinating exercise, and it can illuminate the early years of our study. In 1846 Webb published an excellent account of the Knights Hospitaller dovecote at Garway, Herefordshire, without mentioning rats; at that date the tradition of keeping pigeons for food was still alive, although in decline. Peter and Jean Hansell, writing of the same dovecote one hundred and forty-two years later, and without the advantage of a current oral tradition, described it as having a string-course for protection against rats.⁵⁵ (Webb's measured section, Fig. 6, shows that a hypothetical rat which entered the hole at the top could not climb out again.) The theory of the 'rat-ledge' had been developed in the interim by Watkins, writing in 1890, and had been put into wider circulation by Cooke in 1920. Watkins took an idea from Ferguson, and added a lot more of his own. At Crookdake Hall, Cumberland, Ferguson described a rectangular stone dovecote: 'About 11 ft. above the door sill, a broad ledge of flag runs all round the building, affording a place for the birds to parade on and sun their plumage' (Fig. 7). At Hutton-i-th'-Forest he described the interior of an octagonal stone cote: 'The lowest [tier of nest-holes] is four feet from the floor, and has a broad ledge of flag projecting in front of it, thus interposing an effectual bar to any climbing or jumping rat that may have intruded'. In the same paper he described other stone dovecotes in which the nest-holes began at ground level, and at various heights up to seven feet, without mentioning rats again. Evidently he understood very well that the only hazard from rats was that they might enter the dovecote from below, and that external ledges had a quite different function.

Watkins, writing soon afterwards, picked up this brief reference to climbing rats and associated it with the passage in *The Sportsman's Dictionary* which he was to make famous. It is clear that he was delighted by the idea of rats climbing up the corners of a square dovecote, slipping off the tin plates, and being impaled on iron spikes below. He added: 'At the square stone pigeon house at the Dairy Farm, Bollitree, these plates are fixed fifteen feet up. They are like the angles of a packing case. The spikes I have not seen. Rats have always been a source of danger to pigeons, and seem able to climb up the walls and gain entrance at the top. A number of Herefordshire dovecotes are provided with a projecting string-course on the outside, which baffles the climbing rats'. In an appendix he gave the height of the plates differently as eighteen feet, and he identified two dovecotes which had 'a string-course outside to baffle rats'. One was a square brick cote at The Haywood, and one was a round stone cote at Aldersend. His illustration of the latter (Fig. 8) shows clearly that the 'string-course' is a perching ledge, very similar to the one Ferguson illustrated



Fig. 8
Watkins's illustration of a stone
dovecote at Aldersend
(Tarrington), Herefordshire. He
described it as having a 'String
course outside to baffle rats'.
Destroyed by enemy action
in 1943.

Macmillan Publishers Ltd

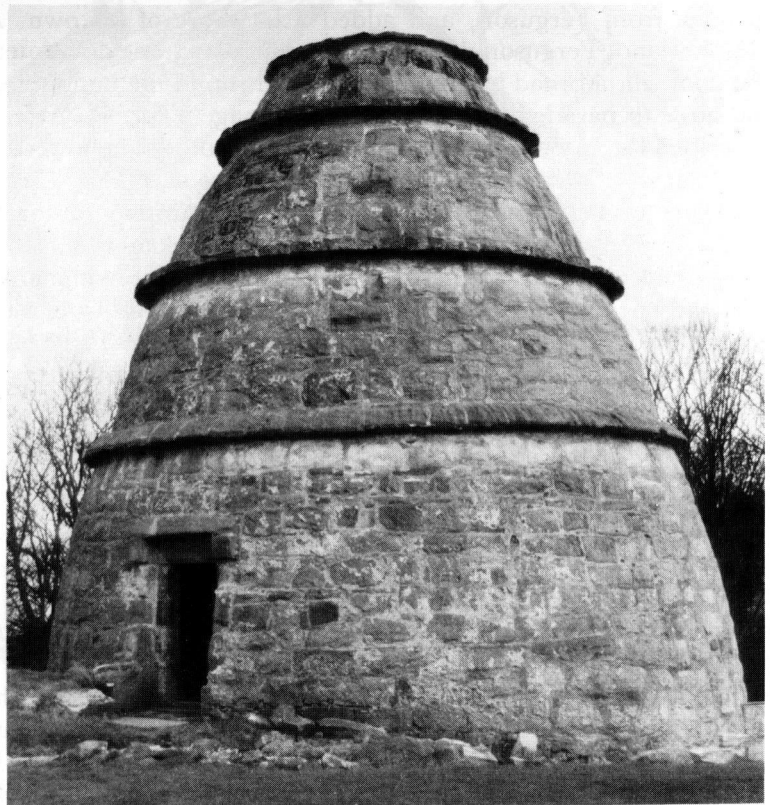


Fig. 9
Beehive cote at
Aberdour, Fife.
Tim Buxbaum

at Crookdake Hall.⁵⁶

This passage has had so much influence on later dovecote studies that it is worth analysing in detail. Firstly, the plates Watkins found were not the same as those advocated by Sportsman. Secondly, it is simply not true that 'rats have *always* been a source of danger to pigeons'; they were a new hazard in the eighteenth century, but many of the dovecotes he described were built much earlier. Thirdly, it was mere speculation that rats 'seem able to climb up the walls'; he had no hard information on the subject, and it is contrary to all observation of the behaviour of *Rattus norvegicus*. Fourthly, he failed to explain why three dovecotes in Herefordshire were protected by various external devices against climbing rats, but that other dovecotes of otherwise similar designs had been used satisfactorily without special defences. Fifthly, in identifying the ledge at Aldersend as a defence against rats he was disregarding Sportsman's statement that round dovecotes were less vulnerable to climbing rats than square ones. Sixthly, he was disregarding what Sportsman himself had written about the function of these 'cinctures', that 'they are made on purpose that the birds may rest upon them when they return out of the fields'. In short, he was letting his imagination run away with him. Watkins's fieldwork was conscientious and reliable, and his survey of Herefordshire dovecotes is still a valuable contribution to the literature. It is only in his speculation from field observation that his work is open to criticism.

Alfred Watkins was the originator of the theory of 'ley lines'. In 1921 he reported that some 'moats, mounds, camps and sites' fall into straight alignments on the Ordnance Survey map; he proposed that they had been precisely aligned by 'early British surveyors', although the features were of widely different periods. He developed the theory in three publications, culminating in *The Old Straight Track* of 1927. In some places he had to modify his observations to fit the hypothesis, for some ground features did not fall into exact alignments, but could be manipulated by aligning on the periphery instead of the centre. He claimed that his theory was confirmed by place-names, although most of the names he cited are of Anglo-Saxon origin.⁵⁷ Rat-ledges spring from the same imaginative use of evidence. Cooke took the 'rat-ledge' theory from Watkins, and found support for it from his reading of Varro and from limited observation of dovecotes in the south of France, without considering the objections discussed above.

SHELTER FROM WIND

This leads on to another question: if external ledges on dovecotes were for the pigeons to perch on, why is it that some have them and some do not? In Scotland most dovecotes are amply provided with external ledges, but in England they are much less common. Of those which have them, many are in exposed situations, near the coast or on high ground. Cooke made an important observation about a type of dovecote in the vicinity of Toulouse and Montauban, a round tower with a domed roof: 'Such roof, if left unmodified, would give the pigeons no protection from the wind. To obviate this defect, upon the side from which the mistral blows, the wall has been continued well above the roof and carries three small turrets, which are not merely ornamental but afford additional shelter' (Fig. 3). Of another type of

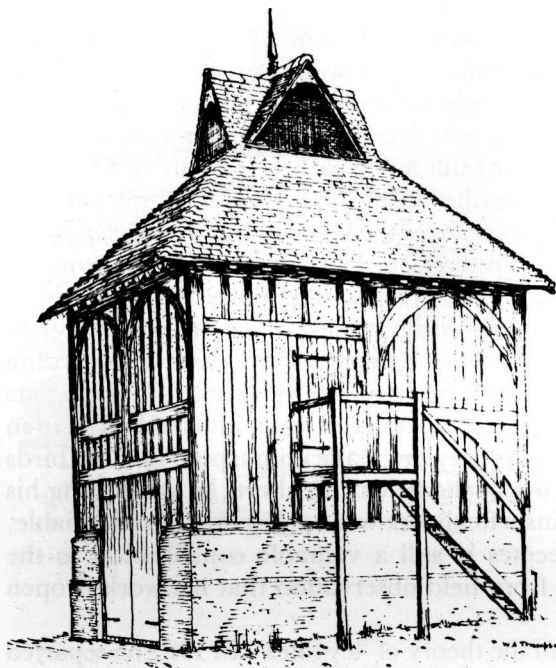


Fig. 10
Sixteenth-century dovecote at Pimp Hall,
Chingford, Essex, from the west.
Restored 1981-2.
W.A. Thompson

dovecote in the same region, square with a single-pitch roof facing south, he said: 'The highest wall and the two side-walls rise above this roof for several feet, and it thus forms a sheltered place on which the birds can sun themselves at ease' (Fig. 2). He noted the similarity between these lectern cotes of southern France and those of Scotland, and attributed it to longstanding cultural links between these countries. No doubt he was right, but it is illuminating to look at the differences too.⁵⁸

The mistral is a cold north-west wind which 'often rushes down in violent gusts to the usually warm littoral between the Ebro and Genoa, and is very unwelcome in the lower Rhône valley below Donzère, where the trees bear the sign of its violence in their set towards south-east, gardens are enclosed by close shelter-belts of cypress, and the humbler dwelling-houses have doors and windows only in their south-east walls'.⁵⁹ Unlike the French lectern cote he illustrated, nearly all the Scottish lecterns have wide ledges on the high rear-wall and on both side-walls. In most the ledges at the sides step up with the slope of the roof to connect with those at the back; on the analogy of a staircase, they have 'risers' as well as 'treads'. This difference demonstrates the way in which their builders adapted a basic form to totally different environmental conditions. In eastern Scotland the climatic hazard for pigeons is that strong winds from every direction are common.⁶⁰ Most of the lectern cotes are orientated to present the single-pitch roofs to the south, so that pigeons can perch on them and warm themselves in the sun, but the ledges on the other three walls provide sheltered perching areas for use when there is strong wind from the south, west or east.



Fig. 11

Stone dovecote at Upper Bache Farm, Kimbolton, Herefordshire, from the east. The plaster panels in the gables are now decayed, but were reported by Watkins to be dated 1747. The roof was repaired and the louver was rebuilt early in this century



Fig. 12

Timber-framed dovecote at Luntley Court, Herefordshire, from the south-east. The date 1673 is inscribed over the doorhead. Restored in 1929, 1972 and 1988

An adaptation to an environmental extreme may be seen at the lectern cote at Forse in Caithness, illustrated by Cooke and Beaton. It is within two miles of a coast facing south-east, with forty miles of open sea to the south, and three hundred miles of the wild North Sea to the east, as exposed a situation as any dovecote in Britain. The side walls have stepped parapets, each providing twelve flat perching-places for use in calm conditions or north winds, and two stepped ledges on each for use in east or west winds. The high north wall is unusual in having three ledges, and the low south wall has one ledge; together these ledges provide an abundance of sheltered perching-space which the pigeons could use in strong winds from any direction.⁶¹

The construction of the beehive cote presents a special problem about shelter (Fig. 9). The wall inclines inwards too steeply for perching, and the entrance hole for the pigeons occupies a large part of the dome. Elizabeth Beaton recorded 482 nest-holes at New Elgin and 700 at Gordonstoun. Where would all these birds perch, if it were not for the ledges? Every beehive cote has a wide ledge round the base of the dome, providing high perching space for use in calm conditions; two or three lower ledges fulfil a similar function in rougher conditions.⁶²

Apparently no one has drawn attention to the fact that we have in England and Wales a design of dovecote which is as ingenious in providing sheltered perching-space as the French and Scottish lectern cotes—the square tower with a four-gabled roof. This form of roof provides inclined areas on which pigeons can perch, which face the sun at every time of day, and which are sheltered in all wind conditions, all within a very limited plan area. This design is found in stone, brick and timber-framing, which indicates that it does not derive from constructional necessity. Indeed, the roof structure is quite complicated to construct and tile. Dovecotes of this design are common in Herefordshire, Worcestershire, Gloucestershire, and Oxfordshire; they occur also in Sussex, Hampshire, Wiltshire, Warwickshire, Shropshire, Flintshire and Anglesey, and no doubt elsewhere. Variants occur which have the same desirable qualities, such as the six-gabled stone dovecote at Lower Slaughter, Gloucestershire, and classical forms with curvilinear gables at Wolverley, Worcestershire, and Edrom in the Scottish Borders. Elsewhere there are four-gabled louvers over pyramidal roofs, as at Corsham, Wiltshire, Gamlingay, Cambridgeshire, and Bocking and Chingford, Essex (Fig. 10). There are even four-gabled louvers over four-gabled roofs, as at Dilwyn, Eardisland, Kimbolton and Luntley Court, Herefordshire (Figs 11 and 12).⁶³

It is arguable that the addition of a multiplicity of dormers to an otherwise plain conical roof did as much for the pigeons in providing pockets of sheltered perching-space as in providing light and access to the interior. At Richard's Castle, Herefordshire, and Kyre Park, Worcestershire, there are three dormers, and at Milcombe, Oxfordshire, there are four dormers.⁶⁴

Dovecotes with crow-stepped parapets are common in Scotland (Fig. 13), but they also occur further south, for example, at Trelawydd and Bodelwyddan, Flintshire, at Willington, Bedfordshire, and at Leeds Abbey, Kent. It is doubtful whether these features were adopted on dovecotes wholly for reasons of architectural assertiveness; they have the practical merit of providing many high perching-points, and many pockets of shelter from the wind. The square stone dovecote at Bodelwyddan seems

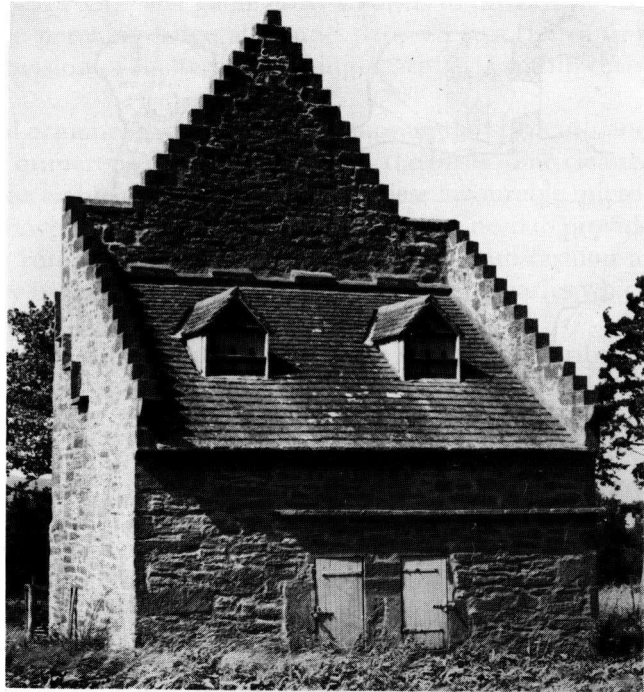
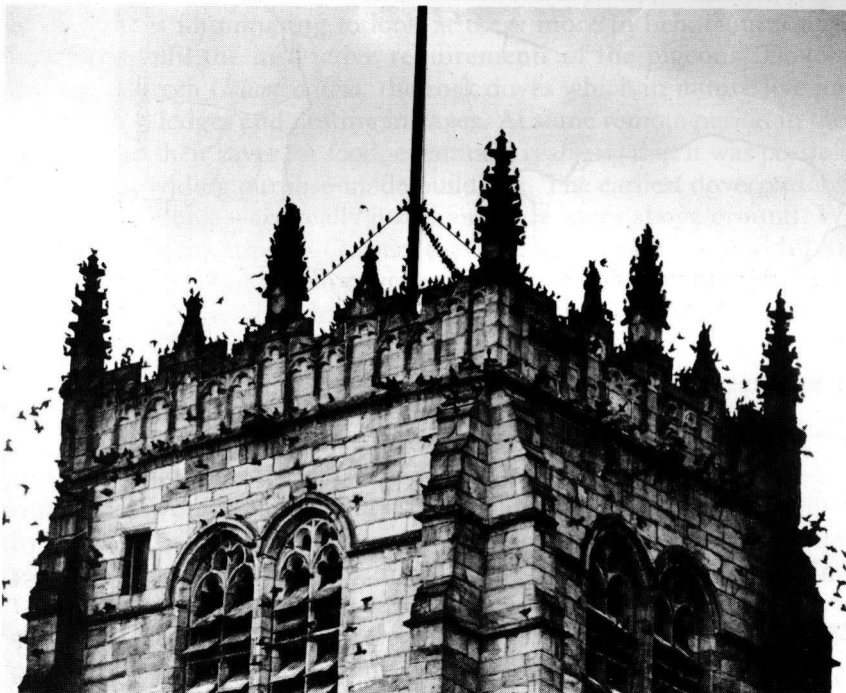


Fig. 13 (*Right*)
Lectern doocot at Glamis Castle,
Angus.
Tim Buxbaum

Fig. 14 (*Below*)
Pigeons perching on a weathered
ledge on the tower of Bradford
Cathedral.

*Photograph by Asadour Guzelian, by
courtesy of The Independent*



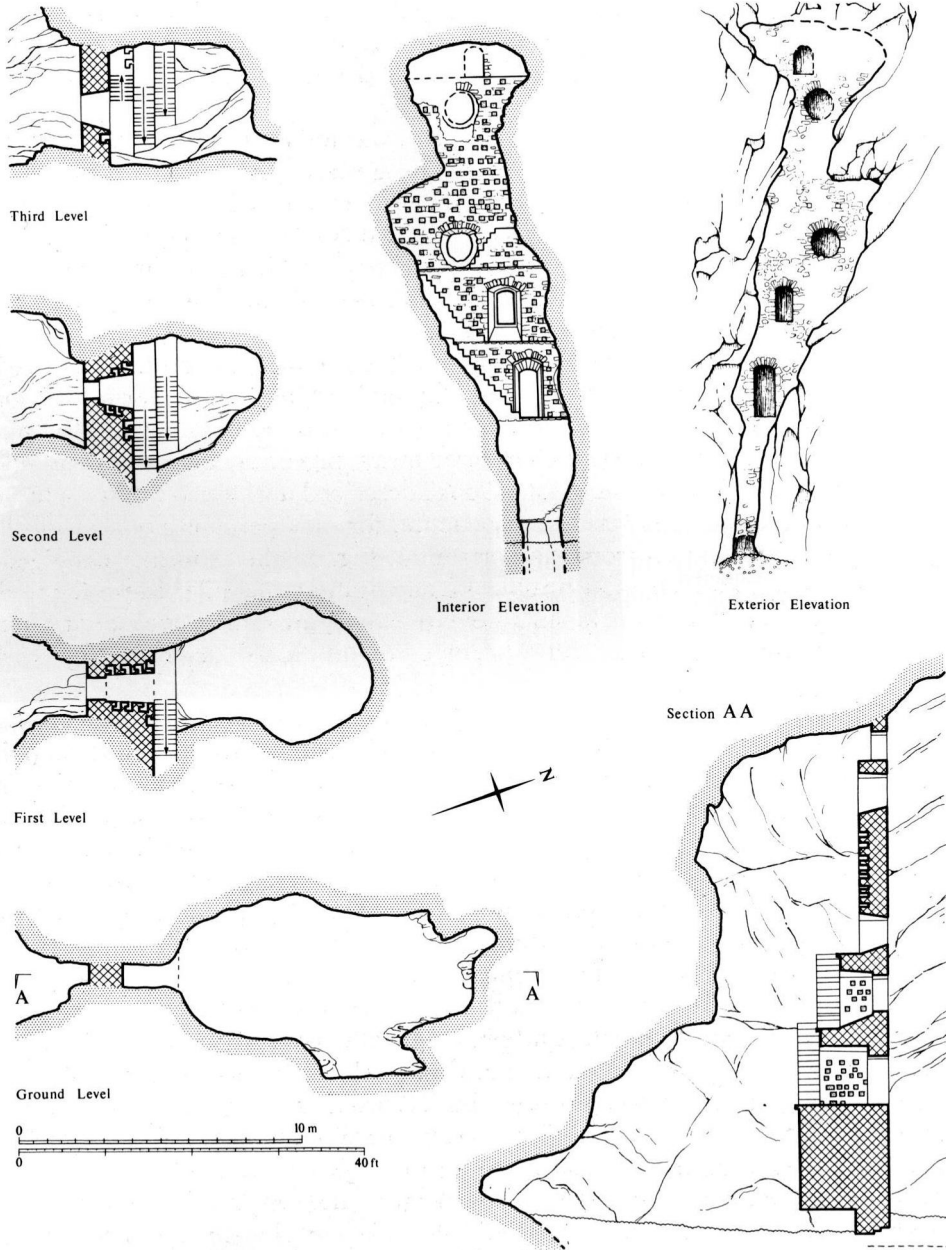


Fig. 15

Culver Hole, near Port Eynon, Gower, Glamorgan. A natural cave in the sea cliff has been walled up and provided with L-shaped nest-holes, with access to them for birds and humans. Watkins discovered it and deduced its function, apparently without knowing that it had been described in 1811 as 'built by a Person whose name is unknown, as a Pigeon-house, and where numbers of them were kept'.⁶⁷

Royal Commission on the Ancient and Historical Monuments of Wales

to have everything—a four-gabled roof, each gable crow-stepped to provide eleven flat perching-places, and a wide perching-ledge all round. It is no surprise to find the reason for this generous provision of sheltered perching-space: it is within three miles of the sea.⁶⁵

The elaborate architectural ornament which was in fashion in the sixteenth and seventeenth centuries provided numerous perching-places for the birds. The cleaner lines and smoother surfaces of the eighteenth century created a less favourable micro-climate against the building; on dovecotes of this period there was more need to provide extra ledges for perching. The romantic Gothick style which came into fashion at the end of the eighteenth century brought in crenellated parapets and pinnacles which provided more pockets of shelter for the birds.

Ferguson introduced a curious fallacy into the literature when he described a rectangular stone dovecote at Corby Castle, Cumberland, built in the form of a Doric temple: 'A projecting ledge runs round three sides of the building, about 10 feet from the ground, but, as its upper edge is chamfered away, pigeons cannot sun themselves on it; it appears a mere useless survival'. Cooke described it in much the same terms. Their observation of pigeons was not very acute, for they perch easily on roof-tiles inclined at forty-five degrees from the horizontal. Fig. 14 shows numerous pigeons perching on a weathered ledge on Bradford Cathedral, very similar in profile to the one at Corby Castle. Comparable ledges encircle a round stone dovecote at Upper Harlestone, Northamptonshire, and a beehive cote at Aberdour, Fife (Fig. 9).⁶⁶

THE BEHAVIOURAL AND ENVIRONMENTAL APPROACH TO DOVECOTE STUDIES
Dovecotes are usually described in architectural terms, entirely from the human point of view. It is illuminating to look at them more in behavioural terms, considering how they fulfil the instinctive requirements of the pigeons. Dovecote pigeons are descended from *Columba livia*, the rock doves which in nature live on high sea-cliffs, perching on ledges and nesting in caves. At some remote period in the past man must have raided their caves for food, eventually realizing that it was possible to domesticate them by providing purpose-made buildings. The earliest dovecotes in Britain—round with domed roofs—are really just man-made caves above ground. Watkins made an important observation in Gower, that a natural cave in a sea-cliff had been walled-up at some early but unknown date, and provided with nest-holes and stairs for access (Fig. 15). He noted too that its local name, Culver Hole, derived from the old word for pigeon, from the Anglo-Saxon *culfre*, first recorded in the early ninth century. Culver Hole seems to represent a half-way stage between exploiting a natural food resource, and constructing a special building for pigeons.⁶⁷

Unlike other domesticated creatures pigeons were not captives. They were always free to depart from the dovecote, and their natural gregariousness was such that a small flock would tend to join a larger flock. In 1780 Gilbert White was impressed by the fact that a flock of dovecote pigeons in Caernarvonshire 'though tempted by plenty of food and gentle treatment, can never be prevailed on to inhabit their cote for any time; but, as soon as they begin to breed, betake themselves to the fastnesses of Ormshead, and deposit their young in safety amid the inaccessible caverns, and precipices of that stupendous promontory'.⁶⁸ The 'gentle treatment' included



Fig. 16 (*Left*)
The louver of the cruck-framed dovecote at Glebe Farm, Hill Croome, Upton-on-Severn, Worcestershire. Restored by the Avoncroft Museum of Buildings, 1972-3

Fig. 17 (*Below*)
Sixteenth-century stone dovecote at Newton-le-Willows, Northamptonshire, from the south-west. The inscribed panel bears the name Maurice Tresham. The Tresham armorial device of three trefoils is used decoratively at several points



slaughtering their young, but pigeon-keepers elsewhere succeeded in retaining their flocks in spite of taking the squabs regularly. There is an extensive literature about the scented lures and semi-magical practices by which pigeon-keepers were reported to retain their own flocks, and to attract birds from other flocks, which need not be repeated here.⁶⁹ Probably more influential than any amount of this luring was the degree to which the dovecote could be made to provide the conditions for which pigeons have an instinctive need.

The first of these is height. Varro wrote of 'wild pigeons, or rock-pigeons as some call them . . . seeking the highest places on buildings through their inborn timidity'. The reason why pigeons seek high places derives from their natural form of defence against predators. In full flight they are too fast to be caught easily by birds of prey, but they are vulnerable while taking off and gaining speed. A high take-off point enables them to swoop down to pick up speed rapidly. Pigeon-keepers of all periods have recognized that it is desirable to build the dovecote high. Often it is sited on the highest ground available; where it is free-standing its most characteristic form is the tower. Others achieved height by constructing a pigeon-loft on the roof of another building. Loudon stressed that 'The only essential requisite is, that it must be at some distance from the ground; because the pigeon is a bird that flies much higher than any of the domesticated fowls before mentioned'.⁷⁰

The second requirement is a clear field of view from the dovecote, so that the pigeons could see birds of prey approaching. Like all creatures whose only defence against predators is flight, pigeons congregate in flocks because the more eyes there are, the sooner predators will be seen. Roger North wrote: 'The lovre should not be lower than the adjoining buildings, and nearest trees; for the hauks will have an advantage to descend upon them, that cannot strike so well rising'.

The third requirement concerns the distance from human activity. North wrote: 'Woodlands harbour haukes, the desperate enemys of these poor birds that inhabite with us. And it is for that reason not to pitch their houses too far from company, but in a mediocrity. If they are among too much buissness and noise, they will be frighted. If retired, the hauks will be too saucy; the passing of men to and fro frights them.'⁷¹ Observation suggests that the optimum distance from the domestic complex for protection from hawks, combined with absence of disturbance, was between twenty and one hundred yards. Most early dovecotes were sited on the edge of the manorial complex. The increased use of firearms in the eighteenth century made it practicable to increase the distance from the domestic complex, particularly on large estates where gamekeepers were employed to exterminate birds of prey. Even where the dovecote has gone its position can often be recovered from old maps, or from field-names.

The fourth requirement is perching space which combines shelter from the wind with exposure to the sun, which has been discussed already. Pigeons have been domesticated in many different climatic regions, and they adapt well to different temperatures. It sounds obvious that they need south-facing perching-areas, but James Walton has recorded early dovecotes in the Cape province of South Africa, one of which is still in use; his photographs show the pigeons perching on the north pitch of the roof as is to be expected in the southern hemisphere.⁷²

The fifth requirement is an enclosed interior, fairly dark, approximating to the

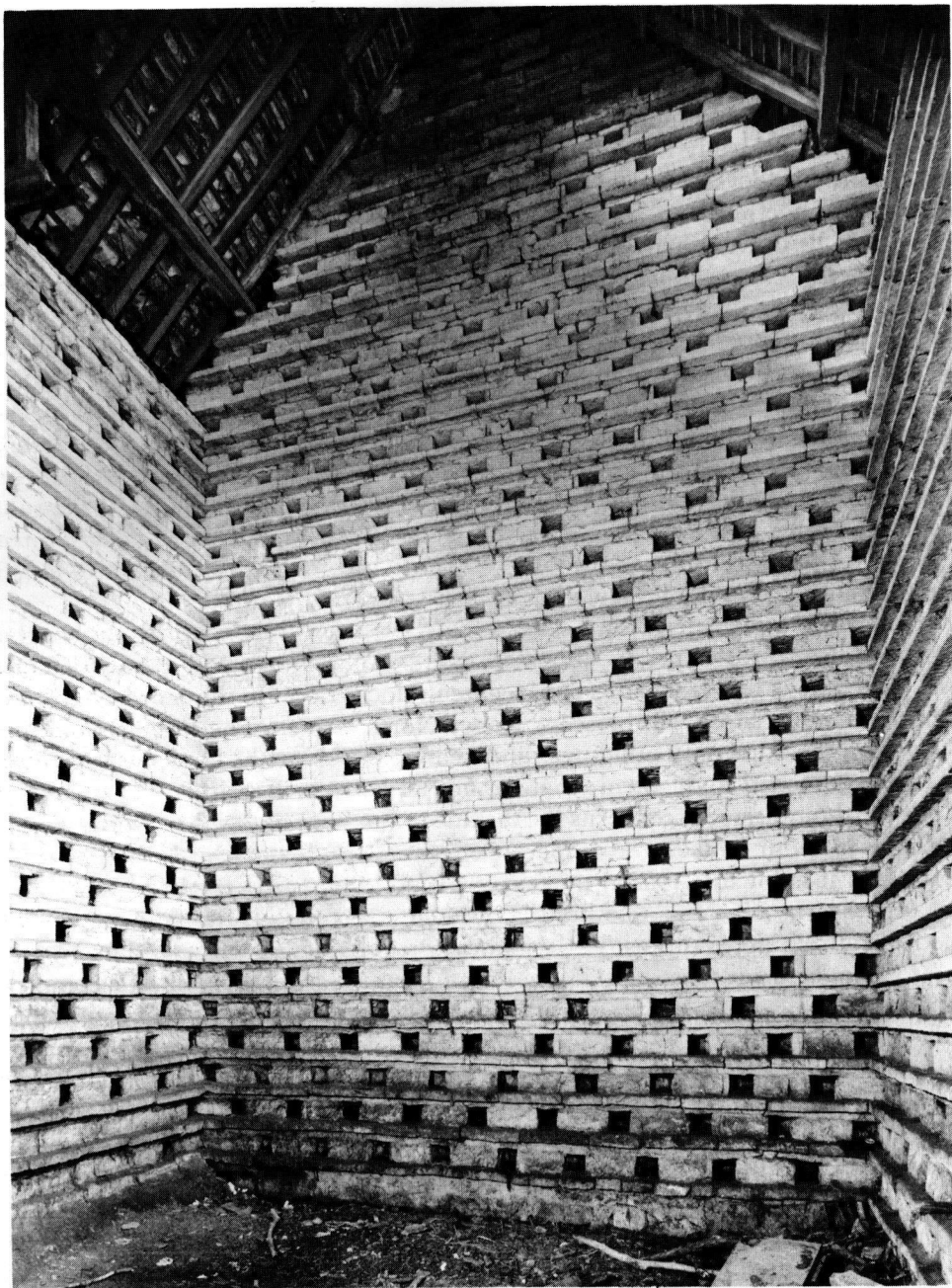


Fig. 18

One chamber of the twin-chamber dovecote at Newton-le-Willows. In each chamber there are nearly 2,500 L-shaped nest-holes, with an alighting-ledge to each tier. The nest-holes begin almost at ground level, because this dovecote was built long before the introduction of *Rattus norvegicus*

caves which rock doves inhabit in nature, with deep recesses in which to nest. More will be said about this later.

The sixth requirement is for water, but involves noise. North wrote: 'Water should be at a moderate distance, and quiet; the sea is a great advantage to a dovehouse, because they love, grow and thrive with salt water'. Rock doves will drink salt water, but other contemporary writers advocated sweet water. *The Sportsman's Dictionary* stated that they are frightened by 'the over-murmurings of the water', and the author of *The Dove-cote* also wrote: 'The sound of neighb'ring Waters breaks their Rest'. This seems most unlikely, when applied to birds which in nature inhabit sea cliffs. Richard Surfleet in 1600 wrote of 'the roarings of waters', and Daniel Girton in 1785 made the meaning clearer when he wrote of 'the loud roarings of mill-dams'. As one may observe in any city centre, pigeons become accustomed to a high level of constant noise, but a sudden loud noise will send them all up. The roar which follows the opening of a mill-sluice would certainly alarm them. At a time when nearly every manor had its mill, placing the dovecote at some distance from this source of sudden noise was an important siting constraint. Three of these writers said that pigeons were disturbed by the rustling noise of trees. The observation that dovecote pigeons are nervous in the proximity of woodland is correct; it is not the noise that disturbs them, but the concealment provided for birds of prey.⁷³

If the dovecote or its siting did not fulfil these basic requirements the pigeons would not stay. When dovecotes were common there were many other flocks which pigeons could join, and many other pigeon-keepers who would use all their ingenuity to lure them away. Any feature of a dovecote or its site which cannot be explained in architectural or visual terms should be examined in terms of what the birds required for the satisfaction of their natural instincts, most of which are concerned with protection from birds of prey.

HUMAN REQUIREMENTS

In addition to the siting considerations which were determined by the requirements of the birds, there were others which depended more upon human values. Buxbaum has described how from the 1740s it became fashionable in the advanced society of eastern Scotland to treat the dovecote as one of a range of ornamental buildings of a gentleman's estate, comparable with the grotto, the hermitage and the garden temple, and therefore to dispose it according to visual considerations as part of a planned landscape. In 1750 Sir John Clerk built a three-storey pigeon-tower on the crest of a hill as 'an ornament to the Country'. Even so, functional considerations were not entirely absent from his mind, for he gave as his reason for demolishing the older dovecote: 'that which I have by the House of Penicuik being hurt by too many Trees where Hawks and Gleds destroy the pigeons as they come out'. A later architectural development was that the dovecote was integrated with other buildings of the stable complex, or built over a gateway as part of a comprehensive design.⁷⁴

Sportsman advised that the door to the dovecote should be visible from the house, for protection from theft. A special hazard arose in the early nineteenth century when the new sport of trap-shooting generated a demand from shooting clubs for large numbers of live pigeons, which entrepreneurs supplied by arranging to have the whole

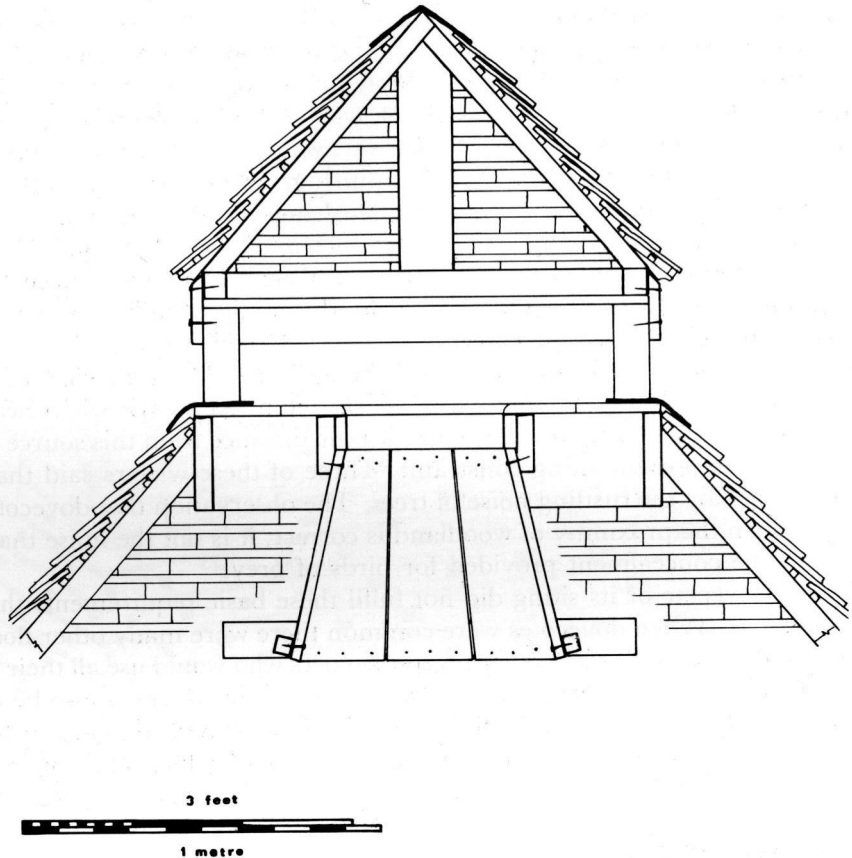


Fig. 19

Vertical section of the protected pigeon entrance of an eighteenth-century square dovecote at Kingston's Farm, Matching, Essex. Pigeons entered through a slot just over six inches high (which large birds of prey could not pass), and descended from the flight platform through a rectangular aperture and a wooden 'pipe' into the interior of the dovecote. Smaller birds of prey might enter the same way, but they were unable to fly out again through the 'pipe'

contents of dovecotes stolen. Iron-bound doors, or doors of solid iron, probably date from this period. Donald Smith reported on a dovecote at West Thurrock, Essex, which has an outer door cased with iron plate, closed by two stout iron bars over staples, and an inner door of solid iron reinforced at the edges, with a massive central lock. These extravagant precautions were probably ineffective, for thieves who could not break in simply used a ladder to net the louver, and tapped the door to alarm the birds until they flew out into the net. In 1846 Charles Waterton built his new pigeon-tower 'in the middle of the farmyard, so high that not a ladder in Yorkshire will reach to its roof'.⁷⁵

PROTECTED PIGEON ENTRANCES

The features of dovecotes which have attracted least attention from modern writers are the protective arrangements against birds of prey. The unreasonable obsession with rats seems to prevent any serious consideration of other predators, although in the contemporary literature there were numerous warnings about birds of prey, and hawks in particular. In lectern cotes the entrance for the pigeons commonly takes the form of a shallow step or dormer half-way up the roof, in which are cut a number of small flight holes, either round or shaped like an inverted U (Fig. 13). The more architectural cotes of the eighteenth century usually have a cupola or turret on the roof, which the pigeons entered through shallow horizontal slots (Fig. 19).

Googe wrote of pigeons: 'By narrow grated windowes they flee abroad to their feeding'. North wrote of his cupola: 'A slitt of 6 inches was left next the foundation of this superfabrick for the doves to enter, and above that glass windowes round' (Fig. 5). In 1740 the author of *The Dove-cote* clarified the protective purpose of this restricted aperture:

*And let the artful Wire, and shining Glass
Leave room but for the stooping Bird to pass,
To frustrate thus the Hawk's malicious Spite,
The soaring Glead, and treach'rous Bird of Night.*⁷⁶

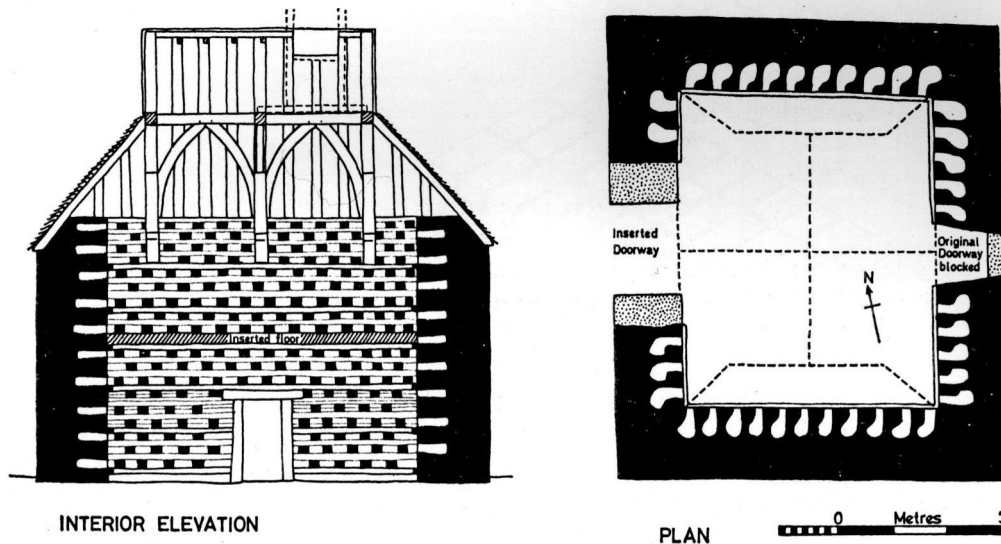


Fig. 20

Measured sections of a fourteenth-century stone dovecote of Evesham Abbey at Grange Farm, Bretforton, Worcestershire.

Drawings by C.J. Bond from Vale of Evesham Historical Society Research Papers, 4 (1973)

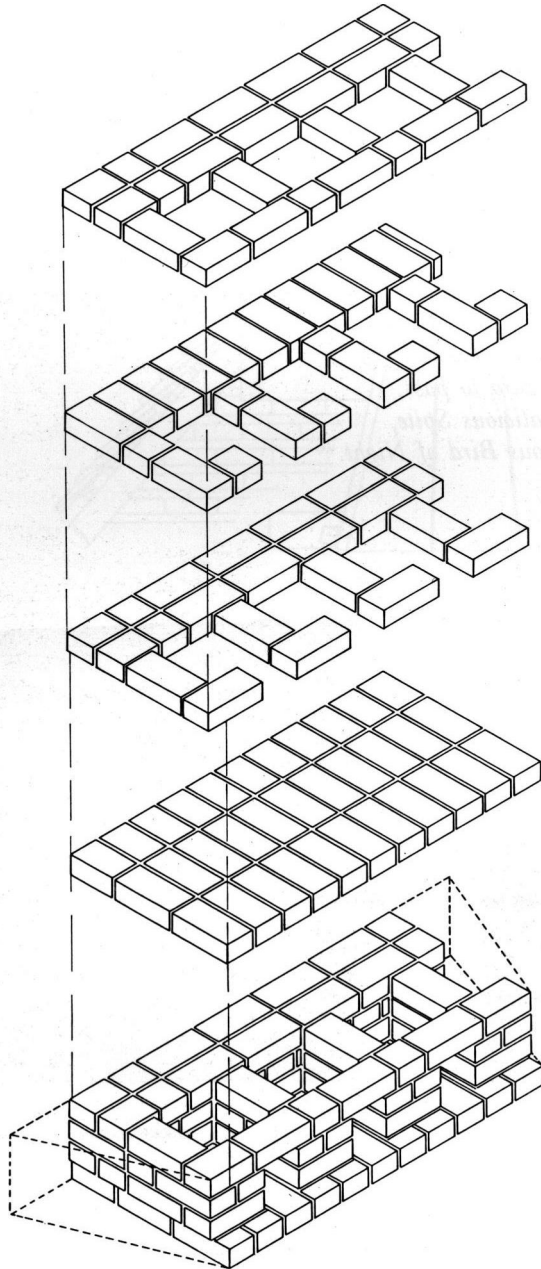
Isometric ViewShowing Typical Detail of Four Courses of Brickwork

Fig. 21

Exploded isometric detail of an octagonal dovecote at Downham Hall Farm, Downham, Essex. Every fourth course of the nest-box structure is bonded into the brickwork of the outer walls by the use of two-thirds bats, and projects inside to form an alighting ledge.

Drawing by Judith Adams, by courtesy of Essex County Council

He was describing the typical glazed cupola of the eighteenth century, but earlier it was more common to have a true louver—a rectangular turret on the roof, of which the sides were closed by parallel inclined boards about six inches apart. It might seem that these boards were intended to throw off rain, but their more important function was to form a grid which kept out the larger birds of prey, while providing plenty of sloping surfaces on which the pigeons could alight. In Herefordshire there are surviving examples at Dilwyn, Eardisland, and Stoke Prior, and in Worcestershire at Charlton, Leigh and Hill Croome (the last restored by the Avoncroft Museum of Buildings, Fig. 16). These louvers are not uncommon elsewhere, but many now lack the inclined boards, or are boarded over to keep pigeons out. On the largest

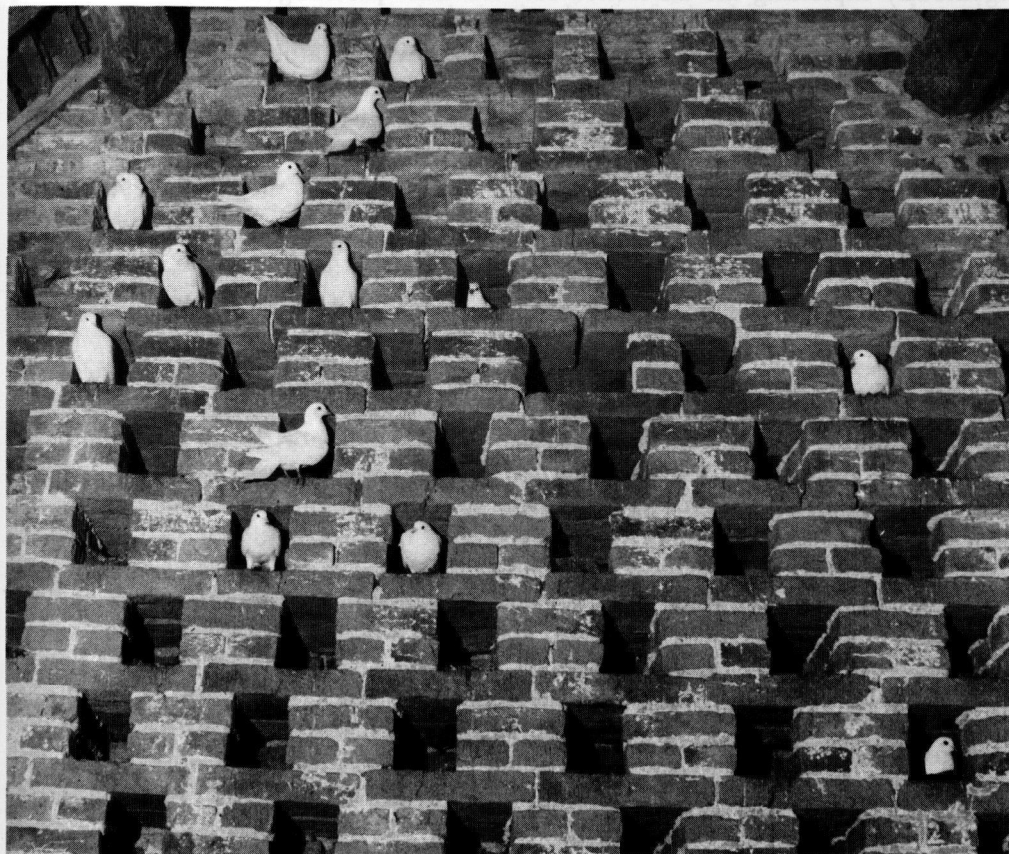


Fig. 22

Nest-boxes of brick, three courses to each tier, at Glebe Farm, Hill Croome, Worcestershire. Most of the boxes are L-shaped in plan, but in the highest tier shown the width of the gable allows only simple rectangular boxes. This dovecote was originally timber-framed, but its gable wall has been renewed in brick. Restored by the Avoncroft Museum of Buildings, 1972-3

dovecotes there are two louvers, as at Abbotsbury, Dorset, Lower Slaughter, Gloucestershire, Clifton, Nottinghamshire, and Newton-le-Willows, Northamptonshire (Fig. 17).⁷⁷

Restricting the size of the entrance holes or the spaces between horizontal boards was probably effective in excluding all the larger birds of prey to which the early literature on dovecotes referred—buzzards, kites, kestrels and crows—but it is doubtful whether that was always sufficient to keep out sparrow-hawks and owls. The author of *The Dove-cote* believed that ‘the Bird of Night’ could be excluded by a restricted slot, but Googe disagreed: ‘Though the Owle seem to be greater then the Pigion, by reason of the thickenesse of hir feathers, yet will they creep in at as little a place as the Pigion will: so small and little is their bodies, though they bee bombased with Feathers’.⁷⁸ Against hawks and owls the pigeon-keeper adopted another strategy, ingeniously exploiting the difference between their perching and flying behaviour and that of pigeons.

Hawks and owls are tree-nesting birds, so they are naturally fitted to perch on branches and twigs, whereas the wild rock-doves from which dovecote pigeons are derived are better adapted to perching on rocky ledges. The pigeon-keeper could put hawks and owls which penetrated to the interior at a disadvantage by ensuring that there were no branch-like timbers on which they could perch, while providing narrow alighting-ledges on the walls which suited the perching abilities of pigeons. Ideally this required that the roof should be built without internal tie-beams or other free-standing timbers. Not all these constructions have been successful in the long term; later alterations sometimes draw attention to the original structural weakness. The hipped roof of a stone dovecote at Lee Farm, Fittleworth, Sussex, was built without tie-beams originally, but two have been inserted later to check the tendency of the walls to spread. In designing the roof of an octagonal dovecote of brick and flint Roger North explained exactly what was in his mind: ‘A small fabrick will hold the thrust of the roof, by the strength of the walls, or some bracing in the frame. But this had so great a bredth, that without some art in the frame the thrust would drive out the walls; for considering the freedome to be for flight of doves, and that winged vermin might have no means to fly out, if once they ventured in, wee could not have any cross-girders, and if any they must bind in each angle, or else better none. And if so, the meeting in the center would be so thick, as to be a hindrance in many respects’. Instead he went to some trouble to design an octagonal ring-beam without projections on which a hawk or owl could alight. By the early years of this century the walls were beginning to split, so his roof was entirely replaced, using four tie-beams.⁷⁹ In other dovecotes there are timbers in the roof which are exposed now, but earlier they were incorporated in boarded floors, from which the boards are now missing.

The difference between the flying abilities of hawks and owls and those of pigeons were exploited by designing a feature through which the birds would have to rise vertically to leave the dovecote. In 1669 John Worlidge provided a useful clue when he was considering how a poor husbandman could protect his crops against the ravages of the lord’s pigeons, for he was debarred by severe legal penalties from killing them. He suggested that the husbandman should net the pigeons and cut their tail feathers, ‘for when they are in their Houses, they cannot bolt or fly out of the tops of their

Houses, but by the strength of their Tails; which when they are weakened, they remain prisoners at home'. North described a wooden floor immediately inside the flight holes, from which descended four square wooden 'pipes' through which the pigeons had to pass when entering or leaving. In smaller dovecotes there was only one 'pipe', funnelling out from a small aperture at the top to a larger aperture at the bottom, with smooth boarded surfaces internally. In the protected pigeon-entrance illustrated in Fig. 19, birds leaving the dovecote had to fly vertically up a 'pipe' 2 feet 3 inches high, passing through a rectangular aperture 1 foot 5 inches by 1 foot 7 inches to the flight platform. Pigeons could do this, but hawks and owls could not. Trapping a bird of prey inside the dovecote would have been as satisfactory to the pigeon-keeper as simply keeping it out, even if that were possible. In 1581 Mascall wrote of the owl: 'If she enter into the house she kilt all she can, both olde and yong, and will remayne there, for shee cannot get forth agayne at the Louer'.⁸⁰

The simple round entrance-hole in the dome of a beehive cote may have been almost equally effective, for a bird leaving it would have to fly vertically upwards through a considerable thickness of stonework. Some beehive cotes are specifically described as being bottle-shaped internally, implying a 'neck' roughly corresponding with the wooden 'pipe' described above. Some have been altered by the addition of a cupola, as at Mertoun House, Berwickshire, and Nunraw Abbey, East Lothian, but this does not necessarily imply that the original arrangement was ineffective for the upper part may have needed other building repairs.⁸¹ There are certainly physical difficulties for the recorder in reaching the top of a beehive cote, but it is a regrettable omission in the modern literature that no one has published a measured section of the pigeon-entrance.

There are conflicting opinions on whether owls were really a threat to pigeons. The naturalist Charles Waterton was quite sure they were not, and he gladly tolerated the presence of one in his dovecote. Gooze wrote: 'I founde of late in myne own Dovehouse an Owle sitting solemnly in the Nest uppon hir Egges in the middest of all the Pigiens, and hard by the house in an olde hollow tree, I found peeces of young Pigiens, that the Owles had brought to feede their yoong with'. The resolution of this conflict of opinion is probably that Waterton identified his as a barn owl, while Gooze seems to have been describing the typical behaviour of a tawny owl. Certainly many early writers included owls among the 'vermin' which preyed on young pigeons; Mascall described various ways of trapping owls on or near the dovecote, which perhaps implies that there was no totally reliable way of keeping them out.⁸²

Some dovecotes retain a hinged trap-door controlled by a rope over a pulley, by means of which the pigeon entrance could be closed. Estienne and Sportsman advocated this device to keep out 'vermin'; it may have been used when introducing new stock to the dovecote, and when culling the old birds.

WINDOWS

The earliest cylindrical and beehive cotes may have been adequately lit and ventilated by the entrance-holes in their domes, but even some of these had additional small apertures in the walls, similar to the splayed loops which lit the stair-turrets of castles and church towers. Most, or perhaps all, later dovecotes have at least one aperture

in addition to the entrance-hole for the birds, originally protected against predators by a wrought-iron grill or wooden lattice. For example, the sixteenth-century rectangular stone cote at Newton-le-Willows, Northamptonshire, is divided into two chambers, each with a rectangular window high in the south wall (Fig. 17). Estienne and his English translators advocated a single window facing south. Googe, following the fourth-century agriculturist Palladius, said there should be 'four windowes, answering the four quarters of the Heaven, which windowes must be wel grated, so as they may give light enough, and keepe out Vermine'. When all education was based on the classics writers respected and repeated the advice of the classical authors, although they were writing of Mediterranean conditions, and design for a temperate climate required different apertures. A correspondent writing in *The Gentleman's Magazine* in 1746 reported how he had improved a round stone cote in which the pigeons had never thrived: 'four oval holes being made at equal distances from each other, about two feet high, and one foot wide, and about eight feet from the ground, the pigeons immediately took more kindly to the house, and have thrived and increased since that time . . . Wire-lattice was nail'd before all these holes, in order to keep vermin out'. Sportsman was emphatic that the window should not face east, but preferably south, 'for pigeons love directly to feel the sun, and especially in winter; but if by reason of the situation of the place, you can do no otherwise than make the window of the pigeon-house to face to the north, you must always keep it shut close in cold weather, and open it in summer, that the cooling air may have passage into the place, which is refreshing and delightful to pigeons in that season of the year'. Nevertheless there are dovecotes in which the windows are orientated differently, such as a round stone cote with a single window to the east at Stogursey, Somerset, and a rectangular stone cote with a single window to the west at Harlestone, Northamptonshire. Some of these apertures may have served as pigeon entrances as much as true windows. Owners liked to be able to see the pigeons clustering about the entrance; by the mid-nineteenth century the pleasure of seeing their 'flirtation' was given as a main reason for keeping pigeons.⁸⁴ Considering all the other siting constraints which have been discussed already, on some sites it must have been difficult to design the dovecote with apertures ideally orientated for sun and wind.

In addition to apertures for access and ventilation, glazed windows were used at an early date. Ferguson quotes from the accounts of two Cambridge colleges: at Queen's thirteen feet of glass were paid for in 1537-8, and at Jesus forty-four feet in 1575-6; the latter amount is so large that it must imply a glazed lantern. North's description of his cupola has been quoted already. It was rebuilt in a different form in the early years of this century; the original cupola is shown in a drawing of 1891 (Figs 4 and 5). A sixteenth-century rectangular brick dovecote at Tolleshunt D'Arcy Hall, Essex, has a pair of arched windows in the north-west gable which retain some contemporary wood-fired glass.⁸⁵

At Angle Hall in Pembrokeshire, and again at Trevanion in Cornwall, Cooke described ancient cylindrical stone dovecotes as having 'what at first appear to be external nest-holes, dotted here and there. These are not nests, however, but lead through into the building, forming entrances and exits for the birds. Some are blocked up, but the original number was about four dozen, leading to four of the tiers. The

holes take their places in order among the nest-holes proper, and were clearly no afterthought, but so constructed when the dovecote was built'. Inevitably, he then proceeded to speculate about rats entering the holes. He seems to have been describing putlog-holes, which are familiar in castles and churches. They are normally in regular course lines at vertical intervals of three or four feet, made to hold the putlogs during construction, and brought into use again whenever scaffolding was required for maintenance work. At other times they would be blocked with soft rubble. Peter and Jean Hansell accept Cooke's explanation, and report similar alleged 'flight-holes' in the walls of round stone cotes at Manorbier, Pembrokeshire, Blackford House, Somerset, Bigbury and Hardwick, Devon, and Bussow Vean and Crafhole, Cornwall. In all cases they are clearly putlog-holes.⁸⁶

DOORWAYS

Doorways are usually small if original, although many have been enlarged later when the buildings were converted to other uses. Bailey and Tindall recorded the dimensions of some forty doorways in East Lothian; if one excludes a few which seem to be special cases, their heights exhibit a definite cluster about 4 feet 7 inches. The widths vary randomly from 2 feet to 3 feet 3 inches. A man of average height could have blocked many of these doorways, as would be required when culling, merely by ducking his head. However, it is worth noting that North gave a different reason for keeping the doorway small: 'After the wall rose about 3 foot high, I sett in the door, 4 ½ foot high (enough for entrance, and more had robbed the walls of holes)'.⁸⁷

PROVISION FOR NESTING

Varro said there should be 'as many rows [of nest-holes] as possible from ground to ceiling', and Gouge repeated this advice in 1577. All the earliest dovecotes in Britain (including twenty-nine of the cotes recorded by Watkins) have nest-holes from ground level, or raised just sufficiently to clear them of rising damp and accumulations of droppings (Figs 6 and 20).⁸⁸ This practice continued throughout the sixteenth and seventeenth centuries (Fig. 18) and part of the eighteenth century, until it became desirable to raise the lowest tier four feet above ground level for protection against *Rattus norvegicus*. This is made clear by a series of firmly dated dovecotes, from 1665 to 1747:

- (1) The Manor House, Haversham, Buckinghamshire. Rectangular stone cote with datestone inscribed 'M. T. 1665'. Nest-holes from two feet six inches above the ground, with rough stone below them.
- (2) Luntley Court, Herefordshire. Square timber-framed cote with the inscribed date 1673 above the door, and carved ornament in the contemporary style (Fig. 12). The nest-boxes began one foot above the ground, mounted on timber sills independent of the main structure, with mortices at regular intervals for the upright members. A recent restoration has reconstructed this arrangement.
- (3) Crookdake Hall, Cumberland. Rectangular stone cote (Fig. 7). Above the door is an inscription 'S^r I B. A B. 1686', referring to Sir John and Anne Ballantyne. Lowest row of nest-holes almost at ground level.

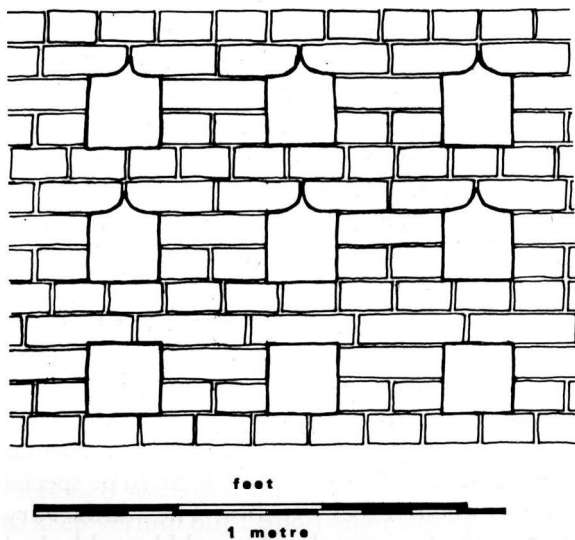


Fig. 23
Nest-boxes of brick, four courses to each tier, at Manor Farm, Stewkley, Buckinghamshire. The lowest four tiers have plain heads, as shown at the bottom of the illustration; all the others have ornamental curved heads of purpose-moulded bricks. There is an alighting ledge of headers to each tier. The dovecote is octagonal, dated 1704 by inscription

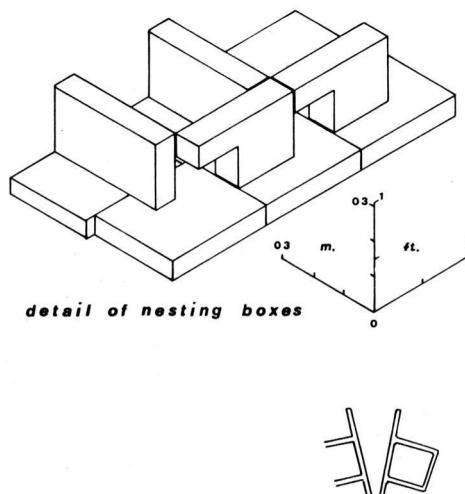
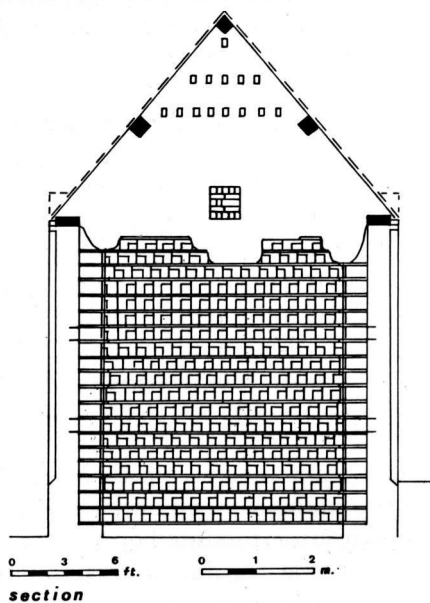


Fig. 24
Brick dovecote at Rowton Farm, Broseley, Shropshire. The nest-boxes are almost independent of the main structure, constructed of purpose-moulded bricks of narrow section.
M. Moran, F.S.A., and H. Hand

- (4) Rougham Hall, Norfolk. Octagonal cote of brick and coursed flint (Figs 4 and 5). Still under construction when Roger North wrote about it in 1698. Nest-boxes from ground level.
- (5) Rose Castle, Cumberland. Rectangular stone cote with the date 1700 on the door, according to Ferguson. He had documentary evidence of an earlier dovecote there, but he concluded that this one had been rebuilt by Bishop Smith (1684–1702). Lowest row of nest-holes nine inches above the ground.
- (6) Manor Farm, Stewkley, Buckinghamshire. Octagonal brick cote in Flemish bond with diaper patterns of flared headers. Datestone enclosed in a moulded brick surround above the door, inscribed:

H G A
1704

 Lowest row of nest-boxes one foot above the ground.
- (7) Queniborough Hall, Leicestershire. Rectangular brick cote in which '1705 W W' is formed in projecting bricks, six courses high, above the door. Lowest row of nest-boxes at ground level. Rebuilt 1987.
- (8) Burghill Vicarage (The Old Manor House), Herefordshire. Octagonal brick cote with the date 1717 inscribed on a square plaque. Lowest row of nest-boxes at ground level.
- (9) Upper Bache Farm, Kimbolton, Herefordshire. Square stone cote with a four-gabled roof and a recessed panel in each gable, formerly containing an inscribed plaster tablet (Fig. 11). Three panels are now eroded beyond recognition, and the fourth is obscured by ivy and too high to examine, but a century ago Watkins recorded the date 1747. Nest-holes from one foot above ground level. At that date *Rattus norvegicus* was still limited to London and its environs.⁸⁹

In the earliest dovecotes the nest-holes are deeply recessed in the fabric of the walls. At Garway each has an entrance six to seven inches square, leading along a passage which turns at right angles to form the nesting chamber, the whole being seventeen inches deep (Fig. 6). In another early dovecote at Bretforton, Worcestershire, the nest-holes also turn to one side, though not so sharply (Fig. 20). This arrangement would have given as much protection from hawks as could be devised, and would have satisfied the pigeons' natural instinct to nest in dark enclosed places for safety. Varro recommended a shape which probably had a similar protective purpose: 'Each niche should be made so that the pigeon may have an opening just big enough for it to come in and out, and should have an inside diameter of three palms [one foot]'.⁹⁰

By the eighteenth century most dovecotes were being built with much thinner walls than earlier; the adoption of brick instead of stone rubble accentuated this change. It was no longer possible to sink the nest-holes deeply in the fabric of the walls; a structure of nest-boxes was built against them, often quite separately. North made this clear, for at the time of writing in 1698 he had completed the walls, roof and cupola, but had not started building the nest-boxes.⁹¹ In some dovecotes the two constructions are better integrated, as at Downham, Essex, where every fourth course of the inner structure comprising the nest-boxes is bonded into the outer walls (Fig. 21). At Broseley, Shropshire, the bonding between the inner and outer structures

is minimal, only four courses in a height of fifteen feet (Fig. 24).

When building a dovecote of stone rubble the mason was using an irregular material to form nest-holes of dimensions specified by his employer, or based on previous experience. The change to brick introduced a new issue, for the bricklayer was using standard units, and it was necessary to decide how many courses of bricks should be laid to form each tier of nest-holes. Assuming bricks $2\frac{1}{4}$ to $2\frac{1}{2}$ inches deep, and mortar joints three-eighths of an inch thick, three courses of bricks per tier would form nest-boxes about six inches high internally, rather less than pigeons require to stand upright, as illustrated in Fig. 22. Four courses per tier would form more capacious nest-boxes, perhaps more likely to retain the birds, but fewer of them. The Rector of Clayworth, Nottinghamshire, encountered this problem in 1682, when brick was still an unfamiliar material in his district. It is clear from his account that he could not draw upon previous experience, for he started building the nest-boxes to one pattern and then changed the design to produce larger ones: 'A new Dovecoat built from the ground of Brick; & cover'd with Ely-Tyle; note, that every sett of holes consists of four courses of Brick & may thus be distinguished. The mouthing course, the Binding course, the facing course, & covering Course. After two courses of holes I seasonably bethought myself, that by reason of the smallness of the bricks, & their mouthes, all would be spoild, if not made more open; which having done, it is found more convenient than the narrow ones heretofore used'. Certainly four courses of bricks per tier became more common (Fig. 23). Little structural strength was required, so other builders used bricks on edge, or purpose-moulded bricks of narrow section (Fig. 24).⁹²

Elsewhere the nest-boxes were made of wood, or of various combinations of wood and plaster, or of clay bats (Fig. 25). Like brick, these materials did not recess the nesting cavities sufficiently to protect their occupants from hawks, but by this period pigeon-keepers were placing more reliance on the protective devices at the pigeon entrance. Some wooden nest-boxes are constructed with angled partitions, as at Wichensford, Worcestershire (Fig. 26). This design must have been adopted to satisfy the pigeons' instinctive preference for nesting in dark recesses.

Sportsman advocated that nest-boxes made of brick should be 'dish-fashioned at the bottom . . . for then the eggs will keep in the middle, and the pigeon must sit true upon them, which if otherwise they will roll aside, and for want of proper heat, even though the pigeon sits well in her nest, will chill and spoil'. His advice was not generally adopted, unless mud was used to form this shape. Another way of achieving the same object was to insert in each nest-box a shallow basket called a frail, used for packing raisins. These, or straw nests or earthenware pans, were advocated by Moore in 1735, Girton in 1785, and Loudon in 1825 (Fig. 28).⁹³

In some dovecotes the main fabric is of stone, with nest-boxes constructed of brick, as at Bunker's Hill, Carlisle. One suspects that the nest-boxes have been reconstructed at a later period than the main building, particularly as the lowest tier is over seven feet above ground level. There would have been an incentive to do this after the introduction of *Rattus norvegicus*, and at the same time to fit more boxes into each square yard of wall than could be done in stone, to compensate for the loss of the lower tiers.⁹⁴

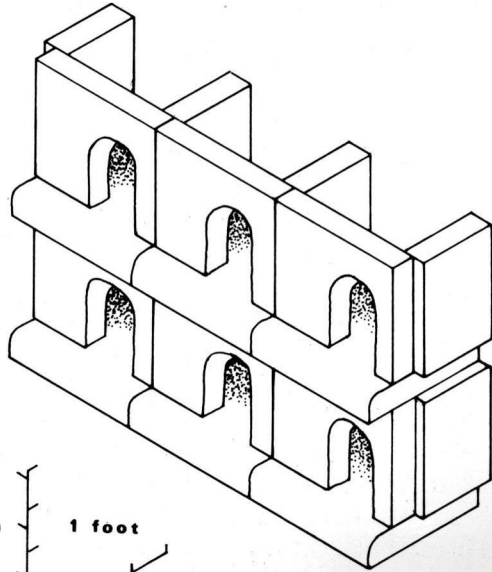


Fig. 25

Isometric projection of nest-boxes of clay bats, within a timber-framed structure, at Blois Farm, Steeple Bumpstead, Essex. The alighting ledges are shown as worn, but were rectangular originally

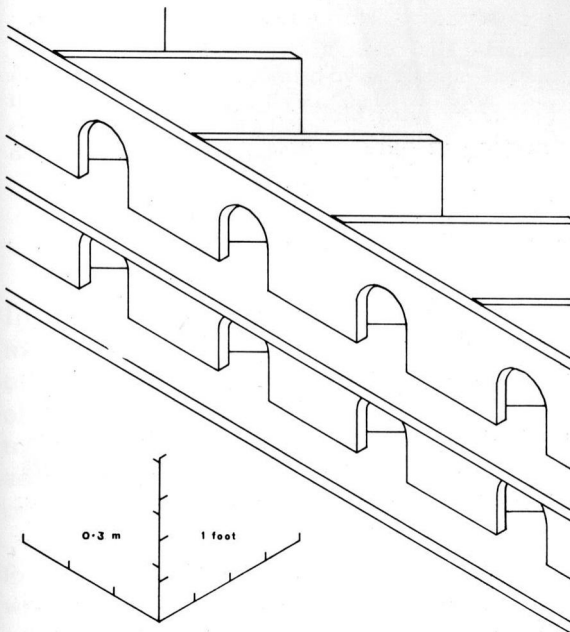
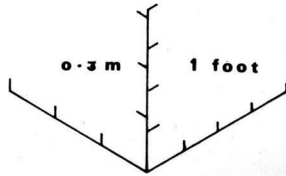


Fig. 26

Isometric projection of wooden nest-boxes with angled partitions in a timber-framed dove-cote at Wichenford Court, Worcestershire. Each box forms a parallelogram in plan, 11 inches wide at the front, 10½ inches from front to back. The lowest tier is mounted on brick piers 3 feet 9 inches high

North said that he intended to build the nest-boxes at Rougham of 'moulded clay, which, they say, pigeons love most of any thing', but in fact they are built of brick. Other pigeon-keepers expressed views on what materials the pigeons 'liked' best. Quite how they knew what the pigeons liked, they did not make clear. James Deane of Colchester, in a specification for an octagonal brick dovecote in the middle of the eighteenth century, wrote: 'the Inside of the House Done with Clay Lockers by reason that the pigeons like Clay better than they do Brick Lockers'. About the same time the author of *The Dove-cote* said he had encountered 'Houses hung with baskets round', and continued:

*The chilling Stone will cold Distempers breed,
And Wood will harbour Worms and Insect-feed.
Of well-bak'd Brick be your Partitions made,
Or else, with Mortar well-prepar'd, inlaid;
For thus no Vermin will their Holes infest,
Or Winter rot the Eggs, and starve the Nest.*⁹⁵



Fig. 27

The revolving structure at Kinwarton, Warwickshire, comprises an octagonal shaft on iron bearings at top and bottom, with projecting brackets resembling a gallows (from which is derived the French name; *potence*) to support an inclined ladder. Restored

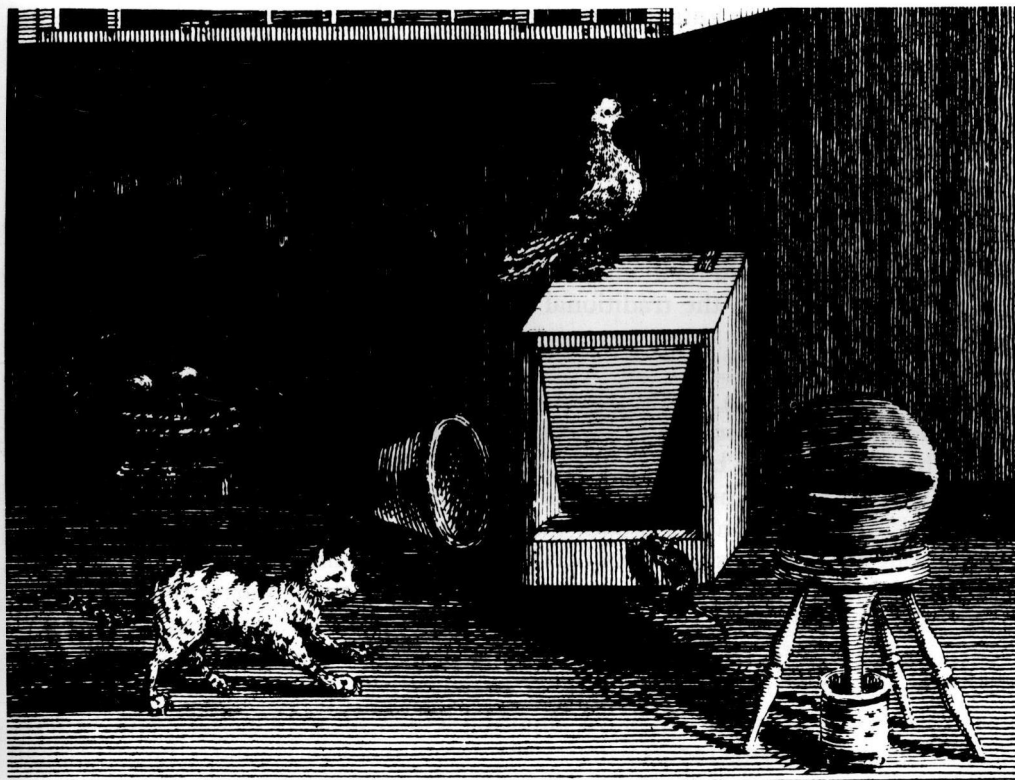


Fig. 28

Ancillary equipment advocated by eighteenth- and nineteenth-century writers: a straw nest to prevent the eggs rolling about the floor of the nest-box, an earthenware dish for the same purpose, a hopper-fed container for food, with a hinged lid to prevent the pigeons from fouling it, and a self-regulating water dispenser. The cat was specially trained not to touch the pigeons or their eggs. From *A Treatise on Domestic Pigeons* (London 1785).

The British Library

In practice, pigeons seem to have accepted and used nest-boxes of every building material, as demonstrated by the fact that all materials were used over long periods of time. The choice of material was probably influenced more by the convenience of the owner than by the preference of the birds. It was considered to be good practice to clean out the nest-boxes at regular intervals, which would have been more easily accomplished with the smooth geometrical materials of the eighteenth and nineteenth centuries than with the deep irregular recesses in earlier rubble construction.

The breeding-cycle of pigeons required two nest-boxes to each pair of pigeons, for the hen would start incubating one clutch of eggs while the previous pair of squabs was still unfledged. For this reason Moore, Girton, Loudon and Priest favoured double nest-boxes with a semi-partition between, but they are rarely found. Moore, writing

of fancy pigeons kept in lofts, argued that overcrowding the pigeons led to reduced fertility, which he attributed to the 'salacious' behaviour of the cocks, parading and fighting and so disturbing the sitting hens.⁹⁶ The instinctive preference of pigeons is for a high nesting-place; the lower boxes would be occupied only when the higher boxes had been taken. It seems unlikely that any dovecote was ever filled to capacity with breeding pairs. Some modern writers estimate the size of former flocks by counting the nest-boxes and multiplying by two, but these considerations suggest that a substantial factor should be allowed for under-occupation. The only way to determine what that might be would be to make observations in those parts of the world where pigeons are still kept in the traditional way.

ALIGHTING LEDGES

Varro said: 'Under each row of pigeon-holes a shelf, eight inches broad, should be attached to the wall, which the birds can use as a landing, and walk on it when they like'. This was repeated by Googe and Mascall, but Sportsman varied it: 'You may . . . place before every next door or mouth, a small flat stone, which comes out of the wall three or four fingers broad, for the pigeons to rest upon when they go in or come out of their nests, or when bad weather obliges them to keep to the pigeon-house'.⁹⁷ Most alighting-ledges are much narrower than Varro recommended, commonly about three inches. Almost every conceivable arrangement of alighting-ledges has been reported in one dovecote or another—some continuous, some intermittent, some to every tier, others to every second, third or fourth tier of nest-holes. Some dovecotes do not have alighting-ledges at all. Pigeons seem to have accepted all these arrangements without any ascertainable preference (Figs 6, 18 and 20-27).

OTHER INTERNAL LEDGES

Ferguson's report on a single wide ledge below the nest-holes has been mentioned already, and his interpretation of it as a defence against climbing or leaping rats. Elsewhere, other ledges have been found, at various heights, in some cases above the lower tiers of nest-holes, which call for other explanations. For example, at Plumland Ferguson reported that the lowest nest-holes were almost at ground level, but on two opposite walls there was a single ledge three inches wide, four feet six inches above the ground. These were too narrow to be useful as shelving, and suggest the supports for removable staging for periodic maintenance work. Cooke reported other internal ledges which do not seem to be alighting-ledges, and offered various explanations for them: at Aston Munslow, Shropshire, a single 'string-course' two feet above ground; at Witham, Somerset, a single ledge four feet six inches above ground; at Hurley, Berkshire, one which he described as an alighting-ledge to the eighth of fifteen tiers of nest-holes, although other alighting-ledges were irregularly disposed; and at Trotton, Sussex, two ledges, each six inches wide and chamfered below, at heights of nine and eighteen feet above ground. A derelict round stone dovecote at Wick Farm, Lacock, Wiltshire, has a single ledge all round, similar to the last, about twelve feet above ground. At Clanacombe, Devon, G.W. Copeland reported a single ledge two feet seven inches above ground.⁹⁸ Some of these features

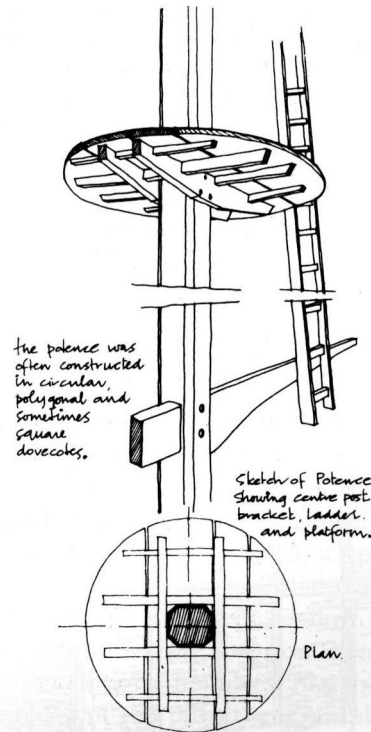


Fig. 29

Details of a platform mounted on the shaft of a potence
at Dunster, Somerset.

John Severn

may have been intended to support staging; others sound more like shelves on which containers could be placed to feed and water the birds in winter.

THE PROVISION OF WATER INSIDE THE DOVECOTE

The Knights Hospitaller dovecote at Garway, dated by inscription to 1326, has a dished roof to collect rainwater, draining into a round cistern six inches deep in the floor, which was also fed by a channel, with another channel to carry off the surplus (Fig. 6). Water supply is rarely a problem in Herefordshire but it is in the Mediterranean, where the Knights Hospitaller were based; this design may have been copied directly from a Mediterranean original. Varro wrote: 'There should be water flowing in for their drinking and washing, for pigeons are very clean birds'.⁹⁹ It seems possible that other early dovecotes in Britain were built in the Mediterranean tradition, and that originally they had an internal water supply like Garway; if so they have not been reported in the literature. If present originally the channels would have been blocked later to prevent the ingress of *Rattus norvegicus*, and the evidence concealed by accumulations of humus. Excavation may reveal more of these water channels.

POTENCES AND OTHER CENTRAL FEATURES

Many dovecotes still retain a revolving structure, which Ferguson described by the



Fig. 30

Arthur Cooke's illustration of a dovecote at Oddingley, Worcestershire, with an inclined ledge all round for perching. Described in 1920 as dilapidated but still containing six hundred nests; since demolished

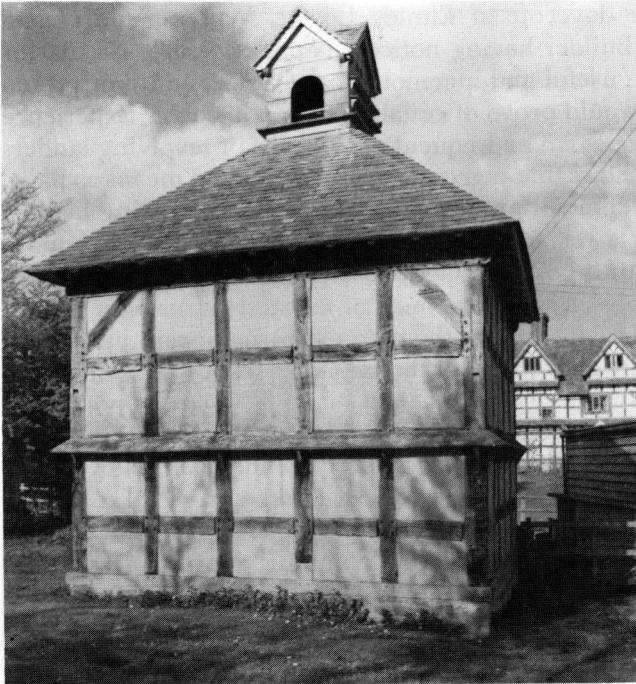
French word *potence*. This may have one or two ladders bracketed from a revolving shaft. The earliest description which has been found in the contemporary literature is by Roger North in 1698: 'On the inside is intended, (for it is not done,) to make an altar of holes round, and upon the center pitch an axis, which shall turne upon that and the middle cross peices of the lower. This axis is to carry 2 ladders, within 8 inches of the walls, and to be opposite to each other, so as 2 persons may search the house at once, with the same movements'. The 'altar', a central structure of brick, is now so derelict as to contribute nothing to this description, but evidently he intended it to add a small number of nest-boxes to those on the outside walls, and to support the lower bearing. The upper bearing is also missing, as the roof timbers which supported it have been removed. In 1735 Sportsman wrote: 'The round house is also more commodious, because you may, by the means of a ladder turning upon an axis, easily visit all that is within the pigeon-house, and come near the nests without being propped, and take the pigeons in them; so that you may effect that by the conveniency of this ladder here, which cannot be done in a square pigeon-house'. Cooke noted

a revolving ladder in a square dovecote at Elmley Lovett, Worcestershire, and speculated that 'the dovecote's builder having noticed its presence in a circular or octagonal house, admired it as a useful and ingenious contrivance, and jumped too hastily to the conclusion that it would prove of equal service in his own. Experience would go far to disappoint his hopes'. The frequent occurrence of revolving ladders in square dovecotes in Scotland shows that pigeon-keepers were by no means so naive as Cooke suggested. Bailey and Tindall proposed that the use of revolving ladders was a main reason for building a rectangular dovecote in the form of two square chambers, and at Spott they found both the ladders, although in disrepair. If the chamber was only eleven or twelve feet square most of the nest-boxes were within easy reach of the revolving ladder; if those in the extreme corners were just out of reach the pigeon-keeper had only to step on to the alighting-ledges for a moment to reach into them.¹⁰⁰

Writers who have described external ledges on dovecotes as being intended to deter rats from climbing the walls sometimes go on to describe the potence, evidently not realizing that if rats are as agile as they believe, it would be as useful to rats as to humans. Some potences are mounted on short masonry plinths. Lest anyone suggest that the purpose of the plinth was to deter rats from climbing, North's description makes clear that pigeons were to be accommodated in the plinth itself. Other central plinths containing nest-holes have been reported at Wellington, Herefordshire, and Whitton Hall, Shropshire. Beaton illustrates a round stone dovecote at Orton, Moray, in which the potence is mounted on a plinth over two feet high; the lowest nest-boxes on the outer wall are near the ground.¹⁰¹ The purpose of the plinth was simply to raise the iron bearing above the level of rising damp and accumulations of pigeon droppings, and in some cases to provide a small number of extra nest-holes.

In 1810 St John Priest described a round dovecote at Shardeloes, Buckinghamshire, with a potence whose shaft reached almost to the cupola. He said it would have been better if shorter, 'lest it serve as a resting place for hawks, owls and other enemies of pigeons'. The height of the potence implies a high beam to support its upper bearing, which apparently is what Priest found objectionable. North contrived his without any extra supporting timbers by using the framing at the middle of the four 'pipes'.¹⁰²

In some dovecotes other central structures have been reported. At Lawton's Hope Watkins recorded 'a large stone raised on wood blocks in middle of floor'. At Fulford Hall, near York, Cooke described 'a small stone slab or table, raised two feet above the ground, formerly the scene of such operations as killing, plucking and general preparations for the table'. Pigeon-keepers tried not to disturb the birds, so it seems unlikely that any operation which could be done elsewhere would be done inside the dovecote. At Dynes Hall, Great Maplestead, Essex, he described 'a wooden table, five feet high, and four feet square', and a similar feature at Chelmshoe House, Castle Hedingham, Essex.¹⁰³ These were too high to be used in the way described above; they suggest a place on which to put the various containers used for food and water. John Severn has illustrated a round platform mounted on the shaft of a potence at Dunster, Somerset (Fig. 29). Comparable platforms mounted on potences were described by Ferguson at Wreay Hall and Corby Castle. There is another at Castle

Fig. 31 (*Left*)

Seventeenth-century dovecote at Moat Farm, Dormston, Worcestershire. Restored by the Avoncroft Museum of Buildings. The original roof was four-gabled. The inclined ledge all round was provided for the pigeons to perch on in strong wind. Similar ledges can be seen on the farmhouse beyond

Fig. 32 (*Below*)

Moat Farmhouse, Dormston, Worcestershire. The inclined ledges are sometimes described as 'weatherings'. If they are necessary to throw rain clear of the walls, why are they not seen on every timber-framed building? They are more likely to have been provided for pigeons to perch on, sheltered from the wind



Bytham, Lincolnshire. Again, it seems likely that they were intended for containers of food and water. Sportsman, Moore, Girton and Loudon described these pieces of loose equipment—hopper-fed containers for food, self-regulating water dispensers, and 'salt-cats' similar to the mineral licks which are provided for cattle (Fig. 28). In winter all these things had to be made available inside the cote, where all the birds would have equal access to them, and preferably off the floor, which often would have been deep in droppings.¹⁰⁴

Some designers of dovecotes introduced a central pier honeycombed with nest-holes to increase the capacity, as in a cylindrical cote at Fairford, Gloucestershire, and a hexagonal cote attributed to William Adam at Duff House, Banff, illustrated by Buxbaum. The fact that it was not generally adopted suggests that the intended gain in capacity was not always achieved in practice. There must have been an upper limit beyond which the over-crowded internal air space would cease to be attractive to pigeons, even if some nest-holes remained vacant. As so many dovecotes have been converted later to other uses it is possible that more of them once had central structures which have been removed, a matter which may be resolved by excavation. Whitaker reported in 1927 that a similar central structure of brick had existed within living memory at Balderton, Nottinghamshire, but had been demolished by then. Other pigeon-keepers sought to increase the capacity by building internal spur-walls containing extra nest-boxes, as at Notley Abbey, Buckinghamshire. Another way of achieving a high capacity was to build a rectangular dovecote in the form of two chambers, with nest-holes in both sides of the cross-wall, as at Clifton, Nottinghamshire, and Newton-le-Willows, Northamptonshire (Figs 17 and 18). The fact that Bailey and Tindall found twelve twin-chamber lectern cotes in one county proves that the design must have had practical advantages. A lectern cote of this type is illustrated in Fig. 13.¹⁰⁵

OTHER BUILDINGS IN THE VICINITY OF THE DOVECOTE

At any site where pigeons are still kept one may observe that they perch on the highest building of the complex, if this is not the dovecote. Their need for sheltered perching space has been discussed already; it was not essential that it should be provided on the dovecote itself. John Severn has correctly reported that where a pigeon-loft is structurally integrated with another farm building it is rare to find a 'rat-ledge'. He attributes this to the difficulty of isolating the loft from the building to which it is attached, that it would 'entail the construction of a projection all the way round a building such as a barn'.¹⁰⁶ The myth of the 'rat-ledge' is now so deeply incorporated in dovecote studies that it seems to block any consideration of another explanation of an observed phenomenon. Surely, the reason why ledges are rare in that situation is that the other roofs of the farm complex provided all the perching space which was required, orientated in various directions to catch the sun at various times of day, providing shelter in various wind conditions?

Bailey and Tindall reported that most of the lectern cotes they recorded in East Lothian are orientated to present the single-pitch roof to the south, but there were two exceptions. One at Bankton faced north, and one at Saltcoats faced east. In both cases they were attached to other buildings of the complex, and it may not have been

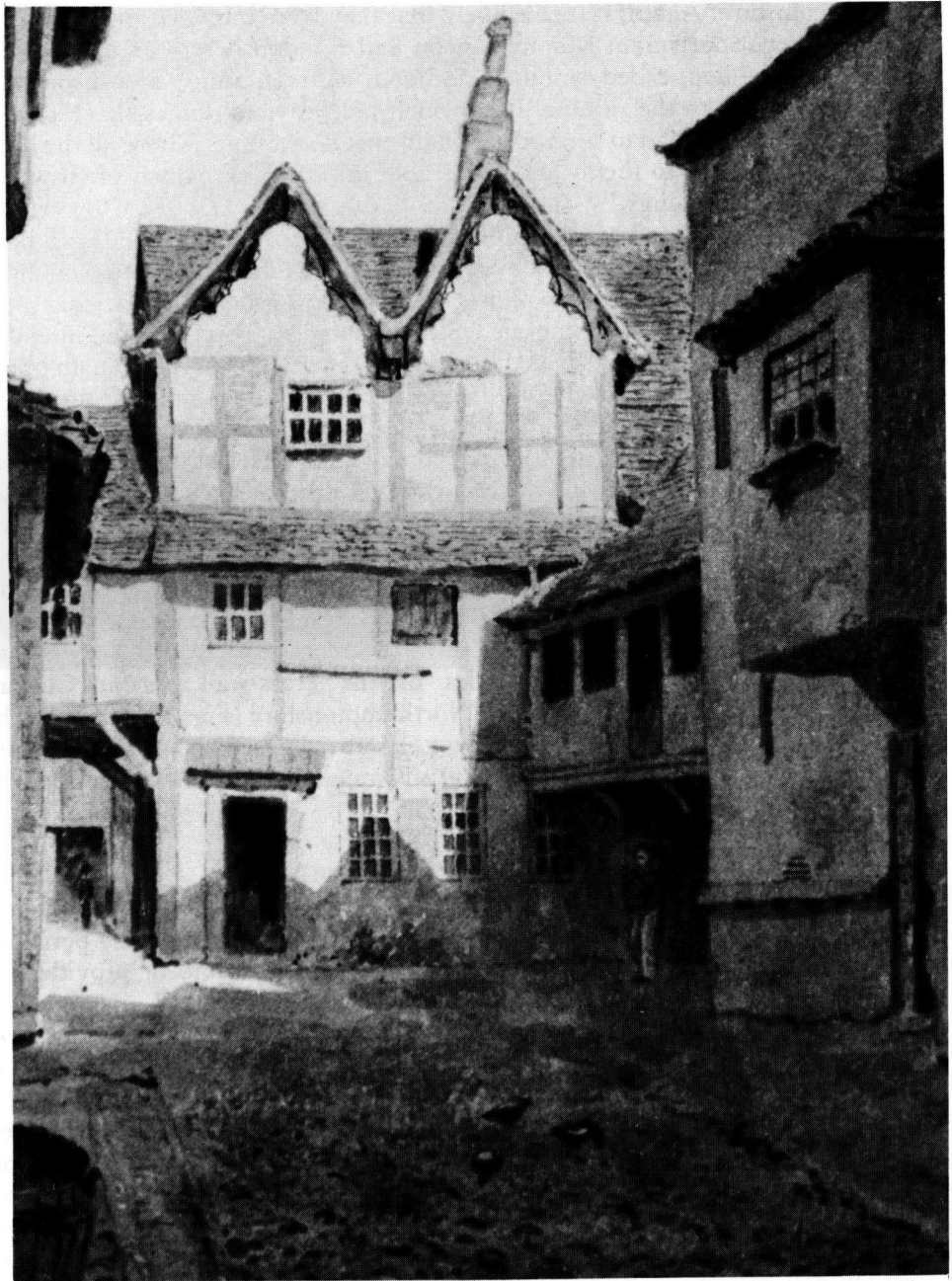


Fig. 33

Rear elevation of The George Inn, Salisbury, with an inclined ledge on which pigeons could sun themselves out of the wind. From a watercolour of 1859 in the Dryden Collection, Northampton.

Northamptonshire Libraries and Information Service

practicable to incline the roofs to the south, but no doubt the roofs of other buildings provided all the perching space which was required.¹⁰⁷ Those who have recorded dovecotes have tended to make a general statement about the orientation of the building to the nearest cardinal point (as did Cooke), or in some cases not to supply any information about the orientation. When the significance of orientation and perching space is more widely appreciated we may hope for a plan with an accurate north point, and at least a brief description of the other buildings which provided the pigeons' immediate environment.

WEATHERINGS, WEATHERBOARDS, SUNNING BOARDS, PERCHING LEDGES

Some timber-framed dovecotes have inclined boards mounted on brackets at about half-height, as at Luntley Court, Herefordshire, and Oddingley and Dormston, Worcestershire (Figs 12, 30 and 31). Michael Thomas says of the last: 'A single weatherboard is fixed all round the building half-way up the frame to protect the lower part from the weather'. Similar features occur on some houses, sometimes tiled. As far as I can ascertain, the only writers who have commented on their purpose are the late Alec Clifton-Taylor, and F.W.B. Charles. Clifton-Taylor called them 'weatherings', and wrote: 'Their purpose can only have been to throw rain clear of the walls'. Charles recommends that they should be renewed to conserve a timber-framed building, or even added for that purpose where they are not already fitted.¹⁰⁸ The question springs to mind, if these features are necessary to shed rain from the walls, why do we not find them more often? In fact they are quite uncommon. If one excludes the much smaller canopies immediately over windows, these features seem to occur only at manors, farms and inns where pigeons would have been kept. Some are associated with existing dovecotes or pigeon-lofts, as at Moat Farmhouse, Dormston, where inclined ledges are fitted all round the house, below the first-floor windows and at the bases of the gables (Fig. 32). The quite small dovecote is on a lower site than the house; the pigeons, seeking height for security, would have perched on the house in preference to the dovecote. It seems likely that the alleged 'weatherings' are really perching-ledges for pigeons, providing attractive perching space when conditions were too blustery for them to perch comfortably on the roof.

In 1785 Girton reported that pigeon-lofts were common in inn-yards. In 1888 Ferguson could confirm from his own memory that 'until the railways put an end to them, the large posting houses on the north road kept numbers of pigeons in their stable yards; they afforded a ready viand for the sudden traveller'.¹⁰⁹ A painting of the George Inn, Salisbury, in 1859 shows a similar tiled ledge which some would describe as a 'weathering' on the rear elevation, providing east-facing perching-space to catch the morning sun, and pigeons feeding in the foreground (Fig. 33).

Whitaker described and photographed a brick dovecote at Staunton Grange, Nottinghamshire, which had fifteen brick ledges about six inches wide on the south-facing gable end, and ten on each side elevation, all above half-height. At Balderton he recorded a brick dovecote which itself had only one ledge, but on the gable end of an adjacent barn there were six horizontal boards bracketed like shelves, the lowest about eleven feet above ground. He understood very well that they were for pigeons to perch on; he called these features 'sunning ledges' and 'sunning boards'.¹¹⁰

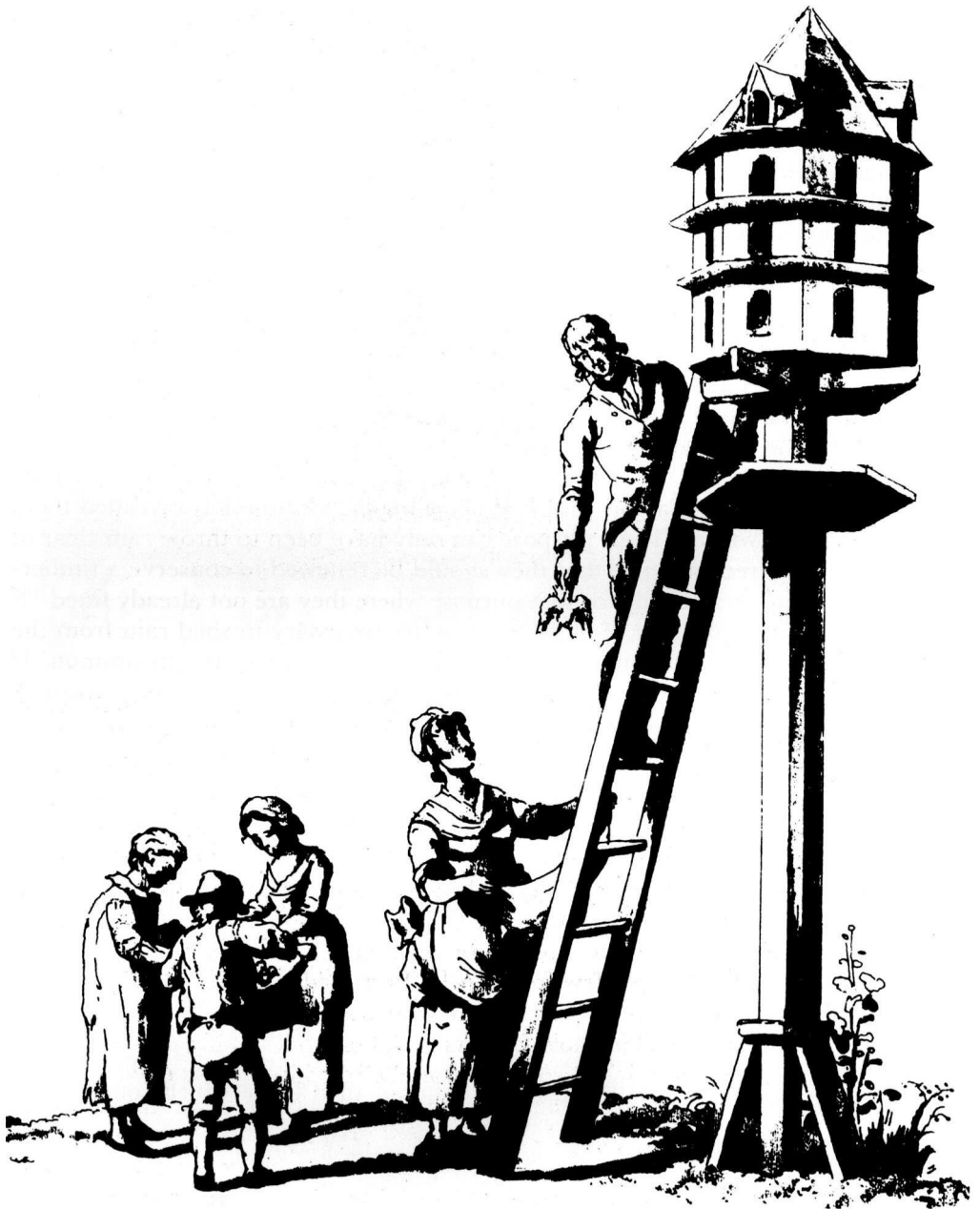


Fig. 34

A type of pigeon-loft erected in the late eighteenth and early nineteenth centuries in farmyards and inn-yards. The man is handing down squabs, which the women collect in their aprons.

From Microcosm by W.H. Pyne, published in 1805.

The British Library

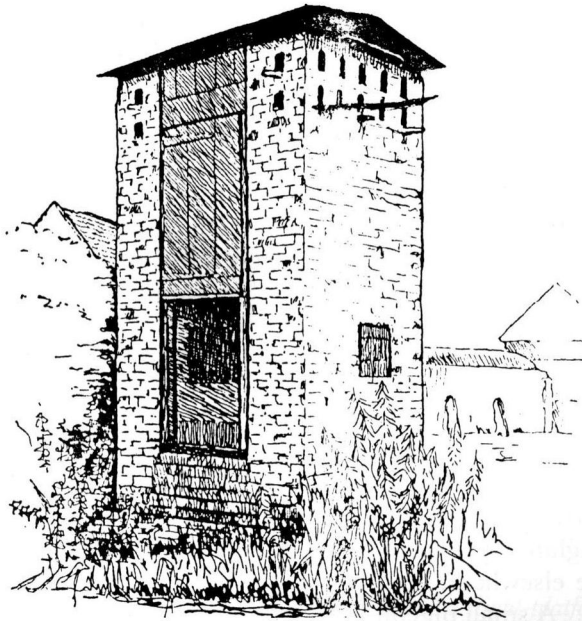


Fig. 35

A nineteenth-century pigeon-tower of yellow brick at Dove House Farm, Dovercourt, Essex. Only the upper chamber was for pigeons; probably the lower chamber was for poultry.

From Pigeon Cotes and Dove Houses of Essex by Donald Smith (London 1931)

Members of the Essex Historic Buildings Group have drawn my attention to a curious phenomenon, that inclined ‘weatherings’ high on the gable ends of timber-framed barns and farmhouses are much more common in Suffolk than in Essex, and that this difference is apparent as soon as one crosses the county boundary. The climatic conditions and building materials are the same on both sides of the boundary, but this observation suggests that some other factor was different. Could it be a difference in the extent of small-scale, farmyard pigeon-keeping? As Norman Scarfe has pointed out, in the Middle Ages there were extreme differences of social structure between these counties. Suffolk had more freemen than any other county; Essex was a county of powerful lords, with relatively few freemen.¹¹¹ Post-medieval estates perpetuated the pattern of the earlier manors right through to the eighteenth and nineteenth centuries, with numerous small freehold farmers in Suffolk, but mainly tenant farmers in Essex. Even after the manorial prerogative was abolished in 1762, a tenant farmer was not allowed to keep pigeons without his landlord’s consent—and that consent would not be obtained if the landlord kept pigeons, or if he thought his own crops might be adversely affected. On the other hand, from that date every Suffolk freeholder was free to become a pigeon-keeper. So it seems possible that the different incidence of these inclined ledges is simply one aspect of a difference between the tenurial conditions in Essex and those in Suffolk.

Appendix

A SUGGESTED TERMINOLOGY FOR DOVECOTE STUDIES

A building standing directly on the ground, and wholly devoted to the domestication of pigeons, was known in historical English sources as a *columbarium*, *culverhouse*, *dovehouse*, *dovecote* or *pigeon-house*. The third was the most common until the seventeenth century, when the fifth was generally adopted. As Cooke has introduced the subject to a wide readership by the less common word *dovecote* it is probably best now to continue using the word he used.

A tall building designed for more than one purpose, of which only the upper chamber was intended for pigeons, might be distinguished by the term *pigeon-tower* (Fig. 35).

Where accommodation for pigeons was erected on the roof of another building, or inserted into its roof, it should be called a *pigeon-loft*. *Hoil*, a variant of *hole*, is a north of England dialect word for such a feature, and is best restricted to north of England regional studies, unless it can be shown that the word was in vernacular use elsewhere.

A small pigeon-loft mounted on a pole, or bracketed to a wall, is best described as such. From the late eighteenth century they were erected in the yards of non-manorial farms and inns (Fig. 34). They were described and illustrated by Loudon in 1833, still associated with food production; but by 1869, when they were illustrated in *Cassell's Household Guide*, they were associated more with ornamental pigeons. In Germany and Austria these types survived in economic use much later, and many still exist.¹¹²

A turret on the roof of a dovecote, through which the pigeons entered and emerged, was traditionally called a *louver* (or *lover*). The word was used in this meaning in printed sources of the sixteenth, seventeenth and eighteenth centuries, usually ending in *er*. As the *Oxford English Dictionary* points out, the modern variant *louvre* arises only from confusion with the Parisian palace or art gallery of that name. *Louver* is the right word for this structure if it is rectangular in plan, as all early examples seem to be (Fig. 16). The more ornamental turret of round or octagonal plan which became common in the eighteenth century is better called a *cupola* (Figs 4, 5 and 8). Where the original louver has been replaced by a glazed *lantern* without entrances for pigeons (as at Wichford Court, Worcestershire), it is best described as such. The following extract from Leonard Mascall, describing how to cull old cock pigeons in 1581, makes the meaning of *lover* clear: 'Some do set a ladder before night to the louver, and in the nighte one or two goeth up the ladder with a lanthorn and light, and covers the louver hole with a net, and sets the light by the Louer, then one knockes at the doore beneath, or else goeth in, then will the doves come to the light, and ever as they come, take the olde Cockes and kill them'.¹¹³

Glover seems to be an obsolete north of England dialect version of *louver*. It was used in italics by Charles Waterton, writing from Yorkshire in 1857, and (again in italics) by Ferguson, writing about Cumberland in 1888. Dr R.W. Brunskill, who

is very familiar with Cumberland speech, reports that he has not heard the word in current use there.¹¹⁴ It does not appear in the *Oxford English Dictionary* except in connection with glove-making, and it has not been found in any work on dialects. The only proper use of *glover* is in connection with north of England regional studies.

A pigeon entrance in the wall of a dovecote, if protected by parallel inclined boards, should be called a *wall lower*.

Smaller pigeon entrances—whether in the form of round holes, rectangular holes, holes shaped like an inverted U, or horizontal slots, etc.—should be called *flight holes* (Figs 13, 19, 24 and 30).

In historical sources the word *window* is used indistinguishably to mean a pigeon entrance, an aperture for ventilation (protected by a grill or lattice against the entry of predators), or a glazed aperture intended only for illumination. To avoid confusion it would be better to restrict its use to the second and third meanings, distinguishing the third as a *glazed window*.

A ledge on the outside of a dovecote, or on an adjacent building, designed for the pigeons to alight, perch and preen on, should be called a *perching-ledge* (Figs 3, 7-9, 12-13, and 30-33). The fictitious *rat-ledge* and *rat-course* might usefully be dropped from the literature.

A wooden floor immediately inside the flight-holes should be called a *flight-platform* (Fig. 19).

A wooden chute descending from this floor into the interior of the dovecote is probably best described by the term Roger North used in 1698, *pipe*, since the context suggests that it was in general use (Fig. 19).¹¹⁵

Contemporary sources used various terms indistinguishably for the recesses or boxes provided for the pigeons to nest in: *nests*, *holes*, *coves*, *lockers*, etc. It would clarify descriptions if cavities in the fabric of the walls were called *nest-holes* (Figs 6, 18, 20 and 27) and boxes separately constructed were called *nest-boxes* (Figs 21-26). Inevitably there will be some constructions of intermediate type. Ferguson used the word *boulin* because he was taking explanations from Viollet-le-Duc, and it has re-appeared in official descriptions of Listed Buildings in Cumberland, but there is no obvious reason to use it in English, particularly as it fails to differentiate between nest-holes and putlog-holes.¹¹⁶

A useful term for analysing the nesting arrangements is the *nesting factor*, defined as the number of holes or boxes per square metre of internal wall surface, disregarding parts of wall without any. In the medieval stone dovecote at Garway the nesting factor is 8·2 (Fig. 6). Brick nest-boxes formed of four courses per tier, as at Downham and Stewkley, yield a factor of 10·5 (Figs 21 and 23); with only three courses per tier, as at Hill Croome, the factor is 16 (Fig. 22). The nest-boxes of clay bats at Steeple Bumpstead yield a factor of 14·1 (Fig. 25). The wooden nest-boxes at Wichenford yield a factor of 15·1 (Fig. 26).

A set of ledges inside the walls, situated at frequent vertical intervals for pigeons to alight on, should be called *alighting-ledges* (Figs 6, 18, 21 and 24-27).

A different type of ledge or structure inside the building, if its purpose is uncertain, should be described in neutral terms.

A revolving structure inside the dovecote was described by Roger North in 1698

and by Sportsman in 1735, but the word *potence* has not been found in an English source earlier than Ferguson's paper of 1887; he took it from Viollet-le-Duc.¹¹⁷ The *Oxford English Dictionary* gives the same origin. The French word has been introduced to a wide readership by Cooke, and there is no indigenous equivalent (Fig. 27).

Other features or forms of construction are best described by the ordinary terms in architectural usage.

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