

Four centuries of local Flora-writing: some milestones

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ABSTRACT

Published lists of the flora of limited areas originated as a by-product of the field instruction provided for medical students in various European centres from the Late Renaissance onwards. Caspar Bauhin's of the Basle district in 1622 was apparently the first. This semi-captive market permitted five Floras of Cambridgeshire even by 1800, starting with Ray's of 1660. Britain's counties and, even more, France's *départements* offered ready-made areas mostly of a size practicable for systematic exploration over a period of years and increasingly became the basis for the more ambitious book-length studies. A trend towards bulkiness from c. 1850 followed cheaper printing in Britain and the advent of some wealthy authors. Methodological advances from then on are considered in turn. Since c. 1950 English counties have been acquiring Floras at markedly more frequent intervals, despite increases, by and large, in technical rigour and overall scope.

KEYWORDS: local Floras, publishing history, distribution mapping.

INTRODUCTION

The number of county Floras – let alone ones of smaller or larger areas – published in these islands over the past decade is, by any standard, impressive. A major reason for what seems to have developed into an ever-growing torrent is that a much shorter period of time tends to be devoted to producing these often massive works than was the case till only comparatively recently. We evidently owe this speeding-up to a combination of factors: a more business-like approach all round; the more finite nature of the fieldwork involved, consequent upon the switch to grid-square recording, and the more precise indications that this method produces of when coverage has reached acceptable levels; the wider ownership among botanists of private cars, which makes that coverage achievable so much more quickly; in many cases, too, a sense that the countryside is nowadays altering so rapidly that it needs more frequent surveys.

Half a century ago the situation was very different. A tally of the number of county Floras then in preparation – however distant or faint the prospect of reaching print – came up with a total of 24 (Allen 1951). To some extent that figure reflected the slow recovery of this line of work from the disruption of field botany in Britain during the Second World War, for within ten years the total had risen to as many as 40 (Bowen 1963). Conspicuous among those 24 was the almost-forgotten Flora of South Lancashire, v.c. 59, the vice-county in which the present conference is taking place. At this, it transpired, the by then old and frail W. G. Travis had been doggedly labouring ever since 1906, when the newly-formed Liverpool Botanical Society had quickly appointed him secretary of the Flora Committee. Travis had been a protégé of the great J. A. Wheldon, probably the finest all-round field botanist the North of England has so far produced, and from him he had inherited the same exceptional breadth of expertise, which extended in particular to lichens, at that period not the fashionable field of study that it was later to become. The basic task of compiling records had reached the point by the 1920s that the Flora was judged almost ready for publication, but at that point “financial reasons”, presumably the steep rise in printing costs brought about by the immediate post-war inflation, had caused that end to be indefinitely deferred. Travis had nevertheless soldiered on, and he was still contentedly entering up records as they continued to trickle in when finally he died after 52 years at the task. Towards the end he had been gently persuaded to release his handwritten manuscript for a fellow member of the Society to type up; but when the product of that emerged, to general consternation the records alone turned out to fill 900 pages – and the numerous introductory sections that had been envisaged as their accompaniment

had not even been written. What proved to be a brilliant salvage operation was then mounted, and eventually, after five more years, a much-abridged version arrived in print, laudably acknowledging in its very title the key role played by Travis (Savidge *et al.* 1963).

A gestation of 57 years may well be thought a record for a British county Flora. That is not, however, the case. *The Flora of Gloucestershire* of Riddelsdell, Hedley and Price (1948) took no fewer than 71 years from conception to ultimate birth. Admittedly, though, that one lapsed for two quite lengthy periods. In the end two out of the three whose names appear on the title page had been dead for seven years by the time the book finally made it. In contrast to the lone, unceasing endeavours of Travis, that other project had had effectively six driving spirits in turn. And it was only thanks to the fact that it was the collective initiative of a society, and more directly the responsibility of a long-lasting committee – just as in South Lancashire – that the work was completed. Even that, bulky though it proved to be, had similarly shed a substantial portion of its intended contents in order to be publishable at all.

Yet the county pride that can sustain a Flora through to publication over in some cases such very extended periods does not necessarily have to be vested in a society to work its effects; it may be sufficient to enthuse a succession of individuals operating under their own independent auspices, engaged in what amounts to a kind of relay race. That *Flora of Surrey* which stands to the name of C. E. Salmon (1931), which itself was about half a century in preparation, embodied the cumulative work of three authors who embarked on the project in turn and then passed their data on to the next on giving up. It finally fell to a fourth to slash the end-product in order to reduce it to a size that the publication fund would stretch to. Look carefully and you can see the resulting scars: the latter part of the book is much terser than the major portion that precedes it.

Cases such as these best exemplify the remarkable tenacity that lies behind the compiling of local Floras. For a century and a half now this has been a central activity of field botany in these islands, a way in which the energies of the locally-based – or if not locally-based, at least locally-focused – have been able to be constructively brought to bear on a long-term goal. As a way of imparting a continuity and a sense of direction to the work of a local society (or at any rate of its botanical section) it is an activity that is surely beyond compare. Indeed, without a project of this kind to keep working away at, however distant the ultimate objective, local botanical endeavour would doubtless often have withered or even died away completely.

ORIGINS

There seems to be a good measure of truth in the notion that the compiling of local Floras on our large scale is a phenomenon rather special to Britain and Ireland. A century earlier, however, that would have been a notion harder to entertain. For France up to then had given rise to a no less impressive number of Floras of its *départements*. It is surely no coincidence that that country shared the good luck of our own in having been divided for administrative purposes into an unusually large number of precisely-defined areas, which in France's case had the further good luck to be all roughly equal in size, without many needing to be subdivided, as ours did, to secure greater equiformity. That size turned out to be conducive to reasonably thorough botanical investigation within a reasonable number of years. Had the (vice-)counties been significantly smaller, the challenge to embrace them scientifically would have been not clearly so great; had they been that much larger, the thought of covering them with any pretensions to thoroughness would have been off-putting. France, however, had the disadvantage that its *départements* date only from the Revolutionary years, whereas most of the counties of England have existed for more than a millennium – time in which to have generated a proportionately deeper loyalty.

If counties and *départements* had not existed, would series of Floras based on areas of around that size ever have been produced? It is hard to believe so. Without them, we would surely have had a goodly scatter of local works, but ones of areas of a much greater diversity in size: some of just smallish districts, others of broad regions, with many less accessible or botanically unappealing areas left more or less untouched. The great asset in inheriting a country-wide lattice made up of equal-sized sections (or one that readily lends itself to reshaping into the equivalent of that) is that once two or three have had Floras produced that serves as a challenge to provide Floras of more and more of the rest.

But an asset like this is not much help unless a sufficiency of floras to give the impression of a series can manage to appear in print. For a long time that was not at all easy. Up until the 1830s, when the benefits came through from the harnessing of steam-power to printing presses, the cost

of bringing out a book was so high as to constitute a serious deterrent – and for another thirty years after that there continued to be special taxes on publishing in Britain that kept that cost higher than it would otherwise have been (Allen 1996; Collet 1899). Unless you were George Luxford and had acquired the necessary skill to print the book physically yourself, as he did his *Flora of Reigate* (Luxford 1838), you either had to be rich enough to take in your stride the risk of the substantial investment needed or go to a great deal of trouble in soliciting enough subscriptions in advance. Not surprisingly, many a local Flora never made it into print, valuable though that would have been. Fortunately, a not inconsiderable number that fell short of that have at least survived in manuscript; others, however, exposed to all the vicissitudes to which a single copy of anything is liable, have no doubt been lost altogether.

For two hundred years there was only a single, reasonably assured ‘market’ for a printed list of the plants of a given local area. This was medical students. It is no accident that the earliest of those lists all seem to have been by-products of the regular outings into the countryside to be shown the commoner wild herbs that were arranged for students in numerous European centres from the Late Renaissance onwards (Allen 2000). The first such Flora seems to have been that by Caspar Bauhin (1622) of the country around Basle, which he is known to have conceived by 1592 at least, soon after starting teaching (Reeds 1991, p. 124). That by Tournefort (1698) of the environs of Paris had this origin too, as did the *Botanicum Londinense* which Petiver (1710) began writing for the benefit of the apprentices he was instructing in his capacity as Demonstrator of Plants for the Society of Apothecaries at their Physic Garden at Chelsea. Unfortunately, Petiver had founded a journal, the *Monthly Miscellany*, and it made best sense to him to publish his guide in that serially; but the journal soon stopped being published and the intended book was left unfinished.

The existence of this student ‘market’ explains why so many of the earlier local Floras were of areas containing a university, and in particular how Cambridgeshire came to be the subject of no fewer than five by no later than 1800. The first of that five, the *Catalogus* of Ray (1660), is entitled to be called the ancestor of all the Floras of counties that have followed after. Many students in those days were affluent – Banks, Smith and Salisbury spring to mind as salient examples of botanists who came into that category in Britain – and could easily have afforded to buy a book they expected to find useful provided its price was not exorbitant. Many other students, though, were by no means so well-placed, so if a Flora was aimed at them as well, it needed to be comparatively cheap if they were to have any hope of purchasing a copy. That consideration made for slimmness and a text that kept very much to the point.

GROWTH IN SIZE

Away from the few centres with a regular turnover of students in any considerable numbers, a book addressed to such a small and specialised section of what was still as yet a fairly limited book-buying public could count on selling only relatively very few copies. A sizeable subsidy was therefore invariably necessary if it was to appear in print at all, let alone extend to more than a bare modicum of pages or include illustrations. As a consequence, until well into the 19th Century, local Floras were minimalist affairs, uninviting to a modern eye and best described as *catalogues raisonnés* (as some of the French ones were indeed frankly so called). A few, though, were smaller than they needed to be on cost grounds, being designed to slip into a pocket. The pioneer account of the flora of the Channel Islands by Babington (1839) was one such duodecimo, a size its author went on to use for the many editions of his national Flora, the influential *Manual of British Botany*. That Channel Islands volume probably holds the double record of being not only the smallest work in this genre ever to have appeared, but also the fastest one ever produced: based on just two successive summers of fieldwork, it was written soon after the second of those and was out in the following June (McClintock 1975, p. 27).

If a local Flora at that period took the form of a fattish octavo, that is a sure sign that its author was well enough off to have the necessary money to spare. Leighton (1841), the first to break the size barrier, had been left financially independent while still in his twenties by the death of his father. Six hundred pages thick, his *Flora of Shropshire* owed most of that bulk to including descriptions of all the species as well. But in that it was not unique, for Bromfield (1856) was to permit himself the same extravagance for his *Flora Vectensis*.

Bromfield was the most lavishly self-indulgent local Flora-writer of all time. After training for a medical career, he was saved from having to pursue that by similarly inheriting money in early

youth. After university and leisurely travel on the Continent he tried living in various towns around England's coast before settling in 1836 in the up-and-coming seaside resort of Ryde. There he lost no time in embarking on the most thorough investigation of any part of Britain ever attempted up till then. The Isle of Wight was at that period a highly fashionable place to live, full of *rentiers* with time hanging heavy on their hands, and he was able to build up a small army of helpers, ranging from the widow of an admiral down to a groom. Free of domestic ties, amiable, infectious enthusiasm and energetic, he was admirably equipped for such a task.

Unfortunately, after ten years or so of intensive fieldwork Bromfield's horizons began to broaden: his love of foreign travel returned and he decided to bring mainland Hampshire within his embrace as well (Wight being then part of that county administratively). Alarmed that this Flora of Floras might never be written up, friends pressed him to put the main meat into print, and because he had so much of more general interest than just lists of localities to report, the leading journal of the day devoted to British field botany, the *Phytologist*, accepted this for publication in serialised form. Even when thus drastically filleted, however, the text was so lengthy that it took 27 parts to complete serialisation (Bromfield 1848–50). It was the first local Flora of any considerable size to be published by that method, and in all the other cases the serialising seems to have been in the transactions of a local society, not exposed to a national readership like this.

It was only just in time – for in the year after the last of those parts appeared, Bromfield suddenly died, while travelling in the Middle East. Aware that he had also made superbly detailed descriptions of all the Isle of Wight's species of vascular plants, drawn up from fresh material, two friends, Sir William Hooker and Thomas Bell Salter, added those to the main substance of what had already been published of Bromfield's Wight data and brought the whole out as a book. The *Flora Vectensis* thus had the distinction of appearing in print in large part twice over. Always a rare work, it is a fascinating one that deserves to be better known.

Not the least of its fascinations is the wondrously expansive form in which Bromfield made a practice of presenting the records for the rarer species. This expansiveness extends even to the names of recorders, whom he apparently felt it unacceptable to indicate merely by initials. Instead, we read “found by my good friend George Kirkpatrick, Esquire” or “the discovery of my very good friend, Miss Georgiana Kilderbee”. Here is how he chose to report the first locality for *Cyperus longus* to be discovered in the island:

“...in a marshy meadow through which runs a little stream, between the new lighthouse at St. Catherine's Point, emptying itself into the sea at Old Castle Point by Puckaster, the station being much nearer the latter, and below the farm of Little Buddle, by which there is a path that conducts almost to the spot, within 10 minutes walk of the Sand-rock Hotel” (Bromfield 1841).

That is virtually as precise as a six-figure grid reference and there are many records in the book fully as detailed as that. Despite the dangers from collectors, of which he must have been all too aware, Bromfield evidently saw it as more important that others should see, and share his own delight in, the island's special treasures.

Bromfield's ultra-expansiveness attracted no imitators. That can hardly have been because no other county Flora compiler could afford so heedlessly grandiose an approach, for several who came after were by no means inferior in wealth: major landowners like the author of the *Flora of Dorsetshire* (1874), J. C. Mansel-Pleydell, to whom a large slice of that county belonged personally, or prosperous businessmen like the co-author of the *Flora of Kent*, F. J. Hanbury (1899), and G. C. Druce, author of at least another five and whose *Flora of Berkshire* (Druce 1897) was certainly grandiose too but in other ways. Wealthier even than any of those was the little-known G. S. Gibson (1862), author of the *Flora of Essex*, who had inherited a large banking fortune and may have been tantamount to a billionaire in present-day terms – for even after a lifetime of philanthropy on a very extensive scale he was still worth a third of a million (Victorian) pounds at his death. No: the reason why Bromfield's Flora was *sui generi* was surely because the Isle of Wight, then only a semi-county in any case, was so much smaller an area to work than any of those that fell to be investigated by his subsequent counterparts. It was so small in fact that Bromfield saw no need to divide it for recording purposes into more than its natural halves – for that island is freakishly, but conveniently, substantially bisected by the river that runs from Newport to Cowes.

METHODOLOGICAL ADVANCES

It fell to a contemporary of the *Flora Vectensis* in its initial, embryonic form, the *Flora Hertfordiensis* of Webb and Coleman (1849), to break the pattern that county Floras had mostly been content to follow up till that point. The innovatory importance of this work was unhappily long obscured by the misleadingly lightweight appearance the book has at first sight, the result of the snippets of verse that precede the account of every plant family. These were included at the instance of the senior author, Webb, a local vicar and *littérateur*, who presumably thought they would widen the Flora's appeal. Coleman, luckily, was much more hard-headed, and it is clearly he that we have to thank for the notable steps forward that this book represents. A classics master at the Bluecoat School at Hertford, he found the traditional methods of recording unacceptably wayward and in a paper he contributed to the *Phytologist* (Coleman 1848) drew to wider attention the novel ones he had devised with a view to injecting a greater measure of system. An abridged version of that paper is usefully included in the book as an appendix. Most influential proved to be Coleman's dividing-up of the county into a number of botanical districts – in this case as many as twelve – and basing those on the river catchments. He went into detail in the paper about his reasons for that choice, explaining that various alternatives he had experimented with in turn had had to be rejected as too artificial as well as too hard to understand on the ground. The river drainages, he pointed out, had the asset of being readily discernible on the Ordnance Survey maps that he recommended as indispensable equipment; they were also the basis of the 'provinces' that Watson (1847–59) had adopted as the (very broad) mapping unit in his *Cybele Britannica*, which was just then beginning to appear and which seemed likely to dominate work on plant distribution in Britain for some years to come. That not everyone was converted by Coleman's arguments, though, is shown by the fact that only three years later a *Flora of Surrey* (J. D. Salmon 1863) appeared in which soil types were used as the basis for dividing up the county.

Much more striking, though, and startlingly ahead of its time, was the method Coleman had settled upon in order (as he put it) "to mitigate the evils arising from the distant residence or partiality [for richer districts] of the compiler" – in other words, to avoid the grossly uneven coverage that results if fieldwork is not strictly systematic. His solution to that problem was what would come to be known, nearly a century later, as the 'stand' method: that is, walking from a particular point and listing all the species met with over a standard distance. Instead of the field recording sheet or card that his 20th Century successors would use, though, he relied on filling a small vasculum with 'pinches' of each species, to serve as a check against the lists he drew up from memory whenever the vasculum was full or a convenient halting-place was reached.

Coleman clearly had a cast of mind that made him particularly receptive to the Humboldtian approach to the study of plant distribution that Watson was then pioneering and energetically promoting in Britain. Together with the rather younger J. G. Baker (to whom Watson was to be lastingly close, to the extent that he made him his executor) he shared the leading role in applying that Watsonian thinking at the local level. Another way of locating him historically therefore is as an unwitting anticipator of a later, second wave of ecogeographical enthusiasm, the discriminating of plant communities that would impact on local Flora work no less noticeably half a century later.

Twenty years after the *Flora Hertfordiensis* came the far better-known *Flora of Middlesex* of Trimen and Dyer (1869). By comparison, this has surely been over-praised, for the further innovations it was responsible for were not in the key matter of the standard of fieldwork but consisted of adding features that broadened the scope and appeal of the genre but were nevertheless only secondary to its purpose and value scientifically.

This work had an unusual origin in having grown out of the activities of a small, sadly short-lived London group, the Society of Amateur Botanists, which met in the shop in Piccadilly of the botanical bookseller Robert Hardwicke (who was to be the Flora's eventual publisher). Two sophisticated young men dominated this body and the book was essentially the joint product of their student years – and remarkable also just in that fact. By the time it reached print they had both embarked on what were to be distinguished careers in botany professionally, the affable, much-liked Trimen on the staff of the British Museum, the haughty, widely-disliked Dyer on the first rung of the ladder that would lead him to the Kew Directorship.

London-based botanists had been exploring Middlesex for generations by then, and given that so much of the county had disappeared under bricks already, this Flora was inevitably a historical one in large degree (as its recent successor (Kent 1975) has been too, more explicitly). It was from this

unusual character that its two innovations flowed. One of these was the citing of the first record of every species, a practice some would hold of dubious value when, as so often happens, it had been carried out indiscriminately. The other was an account of the previous botanists whose work had contributed to knowledge of the county's flora. In this the *Flora of Middlesex* set a standard that has hardly ever been matched. The appendix given over to the account was so lengthy and based on so much manifestly original research that it has credibly been supposed that it was the work of W. W. Newbould (Kent 1963), who alone of contemporary botanists is known to have devoted the necessary years of study to such matters in libraries and herbaria. Newbould was famously self-effacing and unwilling to allow his labours on behalf of others to be acknowledged in print. In this instance, the only glimpse the reader is given of his involvement is a thank-you in the preface for his assistance with proof-reading and for the loan of rare books. Yet without this massive appendix the rest of the text would hardly have earned the book the special acclaim it has received over the years. Although the Flora has been wholly superseded, it can surely only be for this marvellous repository of historical scholarship that it continues to fetch the high prices that it does.

FURTHER DEVELOPMENTS

Those two Floras of counties close to the main centre of botanical activity in Britain between them set the pattern for the style for almost a hundred years. Indeed, it could be argued that they did that all too well. For nothing really radical in the way of innovations followed until the 1930s and several major county Floras were conceived on the same broad lines as that of Middlesex so slavishly that they ended up unpublishable unless severely pruned. But at least there was a model, one which commanded general assent and encouraged subsequent authors to aim high, perhaps more especially in the range of topics covered in the introductory sections.

That model is widely agreed to have reached its finest expression in the *Flora of Bristol* of J. W. White (1912), which was particularly outstanding for two reasons. One was the generous amount of valuable or otherwise interesting comment appended to so many of the species entries, to the extent that it could be regarded as a return to the bravura expansiveness of Bromfield at least in that respect. The other was the author's graceful prose: as Noel Sandwith once remarked, it was a Flora that was a contribution to literature as well as a contribution to botanical knowledge.

Considering what could have happened, it is a matter for some pride that the standard of writing in the genre has been so consistently high, and has only once descended to the journalistic depths of (what can just about be categorised as) a local Flora by Reynolds (1915). This originated as a series of articles contributed to a local newspaper, describing various walks, to which a list of localities was subsequently added and the whole bound together and placed on sale, for a shilling, by an enterprising bookseller. There are some colourful reminders in it that it was written in the somewhat hysterical atmosphere of the earlier part of the First World War. That curious little work additionally serves as a reminder of how hard it almost invariably is to guess the occupation in life of authors of local Floras who are not professional botanists. Who would suspect, for instance, that J. D. Salmon otherwise spent his time running the firm which supplied all the ice for Victorian London's grander dinner-tables; or that the author of the *Flora of Cornwall*, F. Hamilton Davey (1909), was the manager of an arsenic mine; or that William Gardiner (1848), before he turned to collecting plants for a living and published his *Flora of Forfarshire*, earned his livelihood making and repairing umbrellas? Equally unlikely were the pair who produced the *Flora of the parish of Halifax*, Crump and Crossland (1904). Charles Crossland was a butcher, while his collaborator, William Crump, had to abandon schoolteaching because of deafness and became the proprietor of a cinema instead. Their Flora is noteworthy for breaking new ground with the special attention it devotes to describing the local plant communities. Crump was a leading pioneer of the study of ecology in Britain, and the West Riding of Yorkshire was where it had put down particularly strong roots.

Another author who embraced that novel approach with enthusiasm, writing and lecturing on it prolifically, was the Leicestershire botanist, A. R. Horwood. His Flora of that county and its diminutive neighbour, Rutland (Horwood & Noel 1933), never seems to have received the wider attention that the merest glance at its contents should be enough to show that it deserves. For the amount of information packed into its thousand pages – which are printed in unusually small type – is truly amazing (and there was a great deal more, the author assures us, that had to be left out). It stands today, along with many fellow members of the genre, as a permanently

embarrassing reminder of how much there is in local Floras, and county ones especially, that have yet to be put to adequate use.

Not the least remarkable feature of that book was the breakneck speed at which Horwood put it together. After two decades of unhurriedly amassing data, he was suddenly told by his Flora Committee that it had to be out in two years' time, to coincide with the annual meeting of the British Association for the Advancement of Science, which it had just been announced was to be held in Leicester. Entirely without assistance (his nominal co-author, the Earl of Gainsborough, presumably chosen to symbolise the contribution made by Rutland, was dead by then) and entirely in his spare time (for he had a full-time job), Horwood had first to spend a full six months reducing his field notebooks to 40,000 index cards. In the process, the localised records had to be assigned to one or other of no fewer than fifteen botanical districts, twice the usual number. On top of all that work, and perhaps as a result of it, he was ill for a third of the time available. Nevertheless, he managed to meet the stipulated deadline.

THE MODERN BREAKTHROUGHS

It was not until just after the Second World War, in 1948, that the writing of local Floras entered what was immediately recognisable as the technically much more sophisticated and operationally much more rigorous era that has prevailed down to the present. That year saw the publication of what amounted to a sharp break with the past in the shape of Professor Good's *Geographical handbook of the Dorset flora*, its deliberately unorthodox title signalling the work's entirely novel character.

Good was a Dorset man born and bred and, though an exile in Yorkshire for most of his career, he returned there as often as he possibly could. Apart from his almost lifelong study of its botany, he also wrote a book on its lost villages, another on its old roads and even a history of the town of Weymouth. At the start of the 1930s he got round to marrying this intense devotion to his native county to his academic specialism, the geography of flowering plants. This took the form of a decade-long survey of its 1,000 square miles (25,900 km²), with the aim of making Dorset a demonstration case of the insights into the factors determining distribution patterns that could be wrung from a properly thorough and systematic approach. In effect, he carried on where Coleman had left off.

The National Grid did not yet exist, so he had to invent an equivalent of that just for Dorset. The resulting squares he subdivided into sixteen parts. Regrettably, though, he failed to adopt an equally geometric approach for his recording in the field. Instead, he arbitrarily chose to study portions of countryside that constituted a well-defined habitat type to a greater or lesser extent. These portions he termed 'loci'. All the species he could recognise in a 'locus' made up what he termed a 'stand'. From his 7,575 'stands' he accumulated well over a quarter of a million records, and these he converted, manually, into a set of stunning dot-maps, a selection of which formed the outstanding feature of his book (Good 1948). It was, in fact, essentially an atlas accompanied by interpretative text; the catalogue of species with details of their frequency or records of their occurrence, the standard central feature of local Floras, rather pointedly relegated to the second half of the volume – and disappointingly rather cursory.

Good was one of nature's loners, and he had taken his approach as far as a single individual working unaided could reasonably have been expected to do. The obvious next step was for a similar approach to be applied by a group of people collaborating as a team.

Within two years of his book's appearance Good was invited to describe his Dorset work in more detail to Birmingham's Natural History and Philosophical Society (as that body was then called), and the immediate result was the initiating of a new Flora of Warwickshire (Cadbury *et al.* 1971) on essentially similar lines. The main difference was the dropping of Good's system of 'stands', as being too arbitrary, as well as liable to cause the frequency of species of artificial habitats to be underestimated.

The subsequent project broke new ground in a considerable variety of ways. Firstly, from start to finish it was a joint undertaking of a local society and a university. The society, thanks to ample endowment funds, was the one alone in a position to meet the administrative and research expenses. The successive members of the Botany Department staff of Birmingham University with the responsibility for teaching taxonomy – at first, briefly, P. S. Green, then J. G. Hawkes – at once

saw the possibilities the project offered for training students in fieldwork, and over the years numbers of those were allotted areas and investigated them conscientiously. In the course of doing so, one chanced upon the first population of *Scorzonera humilis* to be discovered in Britain outside – appropriately – Dorset (Hawkes & Phipps 1954). Secondly, it was the first major project to exploit the National Grid (the B.S.B.I.'s first Distribution Maps Scheme being then still at the planning stage). Ordnance Survey maps with the Grid printed on them had then just appeared on sale and Green, who had become familiar with gridded maps during his wartime army service, insisted on their being adopted as a basis (P. S. Green, pers. comm. 2002). The 1 km squares of the Grid were initially chosen as the mapping unit, but it was soon realised that Warwickshire was too big for that to be practicable, and the switch was accordingly made to just one square in every group of four, selected randomly. Thirdly, it was the first project of its type in Britain to be conceived with automatic data-processing ultimately in mind. The impetus for this came from one of the three eventual authors, R. C. Readett, who was fresh from revolutionising the accounting system of Birmingham City Council by introducing such methods. At the start that meant the use of punched cards, but by the end magnetic tape had arrived and the data were processed on the University's computer. Fourthly, special standard recording sheets were used. These were much more elaborate than the field cards devised for the B.S.B.I.'s concurrent Scheme. For each square the recorder had to write down the species found and against each one enter the coded abbreviation for the particular habitat type and an estimate of the frequency. Recorders were further expected to pay each of their squares at least three visits. Fifthly, the complexity of that recording system necessitated a major training effort. Several field meetings each summer were held primarily for that purpose, in different parts of the county in turn. The training proved so effective and the meetings so collegially stimulating that in some cases virtual tyros initially had turned into very competent field botanists by the time the project ended. Lastly, the finished work was taken on an out-and-out commercial basis by a leading scientific publisher, which saw it as a means of demonstrating the potential of the kind of advanced retrieval methods with which it was keen to become identified.

Well before that project ended, it was all too apparent that it had been over-ambitious. After fifteen years spent collecting the data and a further six before the resulting massive volume issued from the press the team was, not surprisingly, exhausted. Sadly, but very understandably, it was thereupon disbanded – and the neglected, next-door county of Worcestershire that could have so much benefited from its attentions unfortunately had to forgo them.

In the meantime, the B.S.B.I.'s first Distribution Maps Scheme had taken place and, while employing much simpler methods than the Warwickshire project, had introduced most of that field botany generation to grid-square recording. The immediate outcome was a flurry of county Floras embarked upon based on that new approach. Warwickshire's experience served as a warning against attempting the ideal of a 1 km square coverage and most Flora committees – for by its very nature this much more intensive type of work tended to be a more tightly collective undertaking than in the past – were content to settle for the less demanding tetrads. By a short head the Flora of Staffordshire of Edees (1972) led the field in adopting the latter as the basis on which distributions were to be mapped.

This account would not be complete without some mention of the important contribution to local Flora thinking made by the late John Dony. A teacher of economics by profession, he was to the fore in urging authors to pay more attention to that aspect and not be deterred from publication by exaggerating the difficulties. On this he spoke very much from personal experience. The first of the two Floras he wrote of Bedfordshire (Dony 1953) was the first work ever to be published at the expense of a local authority. He owed this to having acted for many years as unpaid curator of botany at Luton Museum, thereby saving the Borough Council the cost of employing an official. But that argument might not have had the desired effect, even so, had he not been close to the Council and had 'friends at court'. Apart from relieving him of any financial worry, municipal sponsorship was seemingly responsible for the exceptionally wide review coverage that Flora managed to achieve. Considering the book's purely British focus and its narrowly local one at that, it was remarkable that it attracted notices in areas overseas with vegetation that was entirely different, among them California. No doubt partly as a result of such an unusual amount of publicity, the book sold so well that it ended up by making what up to then had been considered an impossibly large profit for a local Flora. However, all of that went to the local authority, to Dony's

chagrin. The next Flora he wrote, he vowed, he would publish himself. As it turned out, that proved unnecessary, for a local authority again was willing to sponsor his *Flora of Hertfordshire* (Dony 1967). Nevertheless that did not stop him from doing his personal bit to maximise its sales, by acting as his own publisher's representative and calling on every likely outlet for books in the entire county.

Dony also thought hard about how to secure economies in printing, and had realised that a major saving was to be had by the simple expedient of having the non-narrative sections of the text set in double columns. A quarto format, instead of the long-traditional octavo, was another of his innovations that has been much copied since. Admittedly, though, Dony was an extremist: he *lived* county Floras, and was prepared to devote more time and energy to compiling, writing and then selling them than probably anyone else would be willing to contemplate. But the world needs extremists to demonstrate the true limits of what is possible.

Since the 1950s local Flora work has been in a golden age, and one that shows no sign of ending. Yet that boom is still, as ever, unevenly experienced geographically. The quantity of publications continues to be a reflection on the whole of where field botanists are present in greatest numbers. Many parts of Scotland have yet to be the subject of any published Flora at all, and barely one Irish county in five has ever had one either. How this chronic imbalance is to be overcome is one of the more important matters that has yet to receive its due share of discussion.

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