

CLIMATE, WEATHER AND PLANTING DESIGN IN ENGLISH FORMAL GARDENS OF THE EARLY 18TH CENTURY

October 1997 was the 10th anniversary of the hurricane that devastated southern England (15/16 October 1987). I was working in London at the time. I still recall the howling winds of that night and the aftermath: at Chelsea Physic Garden, where I was research fellow, and at Painshill Park where I was restoring the eighteenth-century shrubberies (fig. 2). We were told then that nothing like this had happened in Britain for nearly 300 years, since 1703 in fact, when John Evelyn recorded terrible destruction: "The dismal Effects of the Hurecan and Tempest of Wind, rain, and lightning thro all the nation, especial(y) London, many houses demolished, many people killed ... & as to my owne losse, the subversion of woods & Timber ... and Valuable materiall thro my whole Estate, & about my house ... is most Tragically: not to be paralleled with any thing hapning in our Age (or) in any history almost ..."¹

In recent summers, we have had to contend with scorching heat and prolonged periods of drought. On the 1 September 1995, Dr Mike Hulme, Research Climatologist at the University of East Anglia, wrote a short account of that month's weather in 'The Guardian' newspaper: "August 1995 was the hottest in the UK since temperature records began in the late 1600s. Only three days, around the August Bank Holiday, had nationwide daytime temperatures below the average and many days were more than 5 °C warmer than normal ... The summer of 1995 – June to August – has been the third warmest on record, not as warm as 1826 or 1976. August was an exceptionally dry month ... There were 11 days in the month when no rainfall was recorded anywhere in the country. Sunshine totals in August were a record 55 per cent above the normal for the country as a whole, the sunniest August since detailed sunshine records began about 100 years ago." Erika Schmidt, visiting Painshill in late August, recorded the effects. Her slides stand in marked contrast to a so-called normal year (fig. 3 and 4).

While it is easy to see the frequent incidence of these recent abnormalities in Britain and elsewhere as a reflection of global warming, it is not my intention here to rehearse the arguments of that scientific debate. Instead, I am more concerned with the impact that possible climate change might have on the practice of conservation today. Certainly, these unusual occurrences have caused me to reflect on how climate trends and weather patterns influenced gardening in the past. My first attempt to integrate meteorological data into an historical analysis was in my essay on Upper Gower Street in the *Festschrift für Dieter Hennebo: Garten Kunst Geschichte*.² With the help of Tom Wright, I speculated on how the unusually hot, dry summers of the late eighteenth

century might have affected the planting of one small town garden in London. Then, in my forthcoming book, 'The Flowering of the Landscape Garden', I considered how the generally wet, warm summers of the 1750s and 1760s must have favoured the acclimatization of many North American species grown at Painshill. This points to a discrepancy between original and present-day conditions that poses a huge problem for planting conservation.³

In researching the book, I came across numerous references to the effects of weather on planting. These highlighted how careful we need to be in generalizing from data. Thus, in the midst of those wet summers of the 1760s, there was also drought. Peter Collinson, for example, wrote to John Bartram in Philadelphia in 1762: "Your weather has remarkable vicissitudes Ours has been more certain for all our summer has been a constant Hott dry season, all burnt up longer than ever I knew. Plants languishing and perishing for want of rains ..."⁴ And Horace Walpole, in a letter to Horace Mann on 10 June 1765 (at the beginning of an otherwise wet summer), commented: "Some foreigners dined here, and, though they admired our verdure, it mortified me by its brownness; we have not had a drop of rain this month to cool the tip of our daisies."⁵

Now I should add here that I am not the first to consider this issue of climate and planting. Back in October 1992, Tom Wright presented a paper on the British climate in the late seventeenth century at our Chelsea Physic Garden symposium 'The Planting of Gardens 1660-1705'.⁶ The seventeenth century was the era known as the 'Little Ice Age', when the River Thames froze and when John Evelyn recorded frosts in July of one year. Keith Goodway's paper on seasonal and annual changes in planting of the 1690s at Beaufort House, Chelsea, providing evidence of how plants were shifted around in formal plate-bandes, prompted Tom Wright to speculate that extreme cold could have played a role in such annual refurbishment.

Today, I would like to take their tentative conclusions a step further. I would like to argue that our vision of the Baroque Garden is conditioned by a false view of 'formality', in which the vagaries of weather are largely circumvented and climatic changes entirely ignored. This perception of the static quality of formal gardens is still derived from early-twentieth-century historicism. Thus even the most scientifically based reconstructions of the past few years assume a degree of stasis that bears no relationship to the historical realities of planting as improvisation, or gardening as experimentation and alteration (fig. 5). In the period 1700 to



Fig. 2. View over the lake to the Gothic Temple at Painsbill Park in late October 1987 after the great storm of 15/16 October

Fig. 3. A flower bed in prime condition near the site of the Temple of Bacchus at Painsbill Park, late July 1997



Fig. 4. The verdure of a serpentine shrubbery at Painsbill Park, summer 1994



1740, when formal gardens were still common in England, there was a marked warming trend at the end of the 'Little Ice Age', coinciding with the influx of new plants from North America. The 1730s were in fact as warm as the 1930s this century, and so it is reasonable to assume that gardeners, confronted with a new exotic flora, responded experimentally to new conditions. Their experimentation must have been checked by the extreme frosts of the cold winter 1739/40, when exotics such as the *Magnolia grandiflora* were almost entirely eliminated. Thereafter, these magnolias cost a fortune in the nurseries.

I shall return to this issue of climate and weather and its impact on planting. But first a word or two about the art of Baroque planting design.⁷ Here I shall concentrate on the decorative aspects of the plate-bande, what the French called "Décoration". John James's 1728 translation of Dezallier d'Argenville's 1722 edition of 'La théorie et la pratique du jardinage' provides the best account of seasonal planting in spring, summer and autumn (fig. 6). He writes: "... these three Seasons give room for three Decorations of Flowers for embellishing of Parterres in the Year, that is to say, that the Parterres change three times a Year, making three different Aspects or Scenes of Flowers. So that there is the Decoration of the Spring, the Decoration of the Summer, and that of Autumn ... One may have Decorations more frequent by the help of Pots, changing the Parterres every Month and garnishing them with Flowers in Pots, [note: By this Artifice the Parterres of the Trianon were formerly changed every Fortnight.] which are to be buried in the Borders up to their Rim: this surprize and deceives one in such a manner, that one would think these Flowers were raised in the open Ground; but it is very uncommon, and a great Expence."⁸

There are, in fact, no references in purely English sources to three annual changes, and John Evelyn in his 'Kalendarium Hortense' seems to have envisaged only two: one in July when annuals were planted, and one in autumn for the spring show the following season. Indeed, the evidence suggests that the English may have favoured a successional planting scheme rather than seasonal "Décorations" (fig. 7).⁹ Nevertheless, it seems likely that resort to the artifice of 'plunging' pots was the only way of sustaining both the successional and decorative systems. As John James wrote in his translation of 1728: "As it is impossible to avoid some little unfurnishing in our Decorations of Flowers, either by the dying of a Bulb, or a Plant's not taking root; you ought to have a store of all sorts of Flowers, as well in Pots, as upon Beds, to new furnish and fill up the Gaps in every Season. There is no need of having abundance of these, but it is absolutely necessary to have some, unless you would have the mortifications to see your Borders unfurnished in certain Places, without being able to remedy it the Year through."¹⁰

Given the variations in weather from year to year, and the extremes of climatic stress in the waning years of the 'Little Ice Age', the need to replace plants from one year to another and to substitute others over the growing season must have been intense. H.H. Lamb in his authoritative study 'Climate, History and the Modern World' has emphasized how the "characteristic wide variability of the Little Ice Age

kept recurring"¹¹ well into the eighteenth century. Thus, for example, despite the warming trend, the winter of 1708/09 was especially severe, and in 1716 the River Thames froze again. We are told that the London theatres were almost deserted, losing out to the alternative attractions of skating. The three summer months of 1725 produced a mean temperature of only 13.1 °C, and July in London was described as being "more like winter than summer". On the other hand, the winter of 1723/24 and eight of the winters in the 1730s were among the mildest on record and these must have lulled the gardener into a false confidence, rudely broken by bitter winter of 1739/40. In fact, 1740 proved to be the coldest calendar year in English temperature records, averaging only 6.8 °C in central England.

Now it is clearly impossible for us to re-live the climate and weather of the past. From this point of view, and taking into account the many other objections to reconstruction, the idea of returning historic gardens to a particular date in the past is flawed, both practically and philosophically. However, where reconstruction has been attempted, it does seem important to bear in mind the actualities of climate and weather in the period that is being simulated. Here it is not enough to work from statistical generalities, for the impact of temperatures and precipitation on plants is affected by many variables. Only through study of contemporary accounts can we find precise variations in planting palette from year to year.¹² Such variations would help to liven up the otherwise unchanging appearance of the

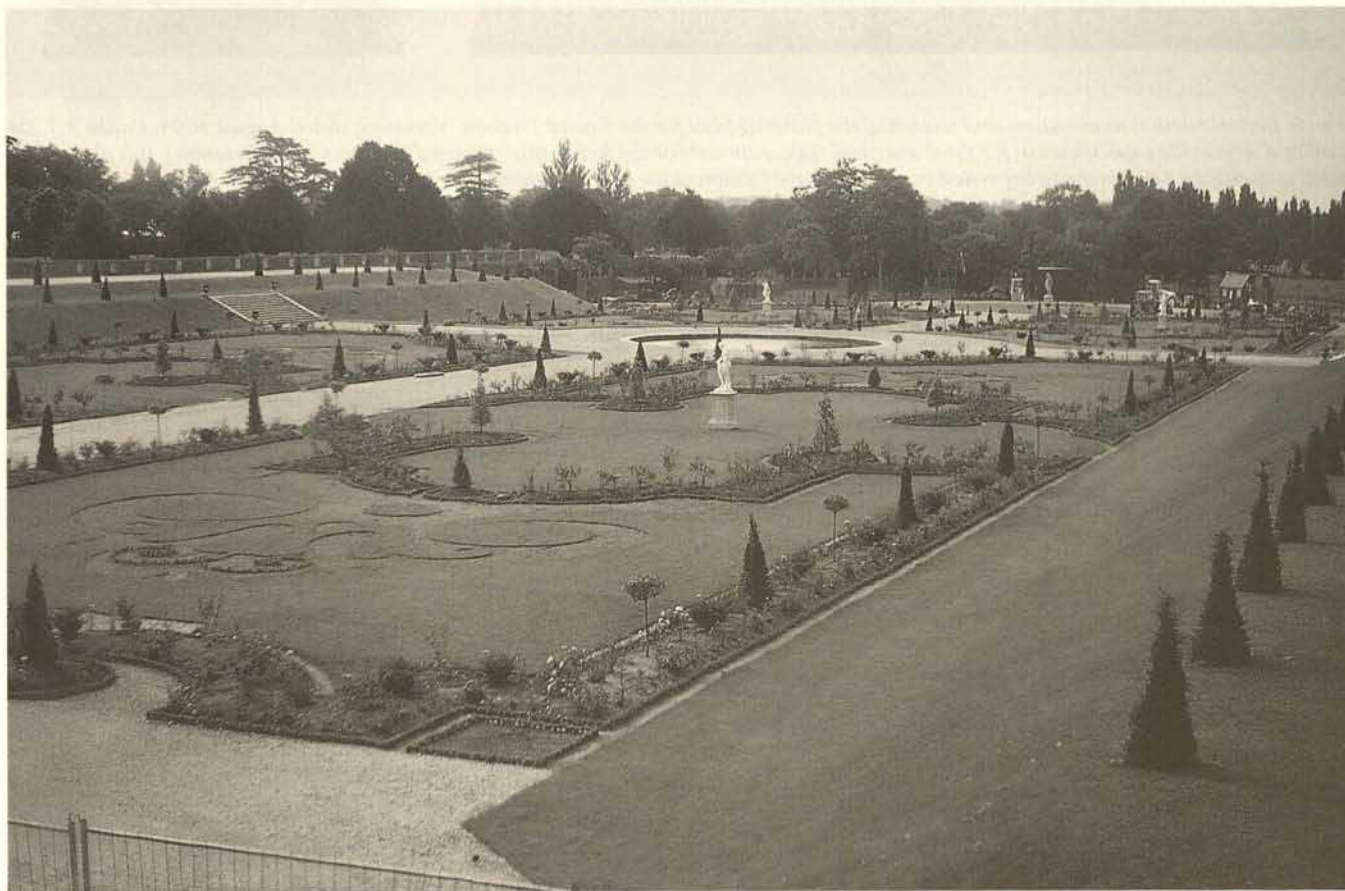


Fig. 5. A view of the reconstructed Privy Garden at Hampton Court in its first season, the summer of 1995, reflects our perception of the largely static quality of 'formal' gardens

As a consequence of this, we can imagine considerable variations in the appearance of the plate-bande. In other words, the flower border was not an installation that looked the same, year in and year out, but a feature of considerable fluidity. At one extreme, we can imagine it resembling interior floral decorations, subject to the changing needs of representation and entertainment in court society and altered every few weeks and each year; at another extreme, an organism vulnerable to environmental pressures, and one that the gardener enjoyed dressing up in different ways as each season permitted and as the weather dictated.

Baroque parterre, counterbalancing the tedium that may set in for gardener and visitor alike.

We also need to know more about the individual fate of particular plants. Thus in February 1684 John Evelyn recorded the condition of his garden at Sayes Court, where he found "many of the Greenes & rare plants utterly destroyed; The Oranges and Myrtills very sick, The Rosemary & Lawrell dead to all appearance, but the Cypresse like to indure it out" (fig. 1).¹³ The resistance of the cypress trees to frost – perhaps a factor of their age or location – is the surprise item in this report. Likewise, Philip Miller's account of

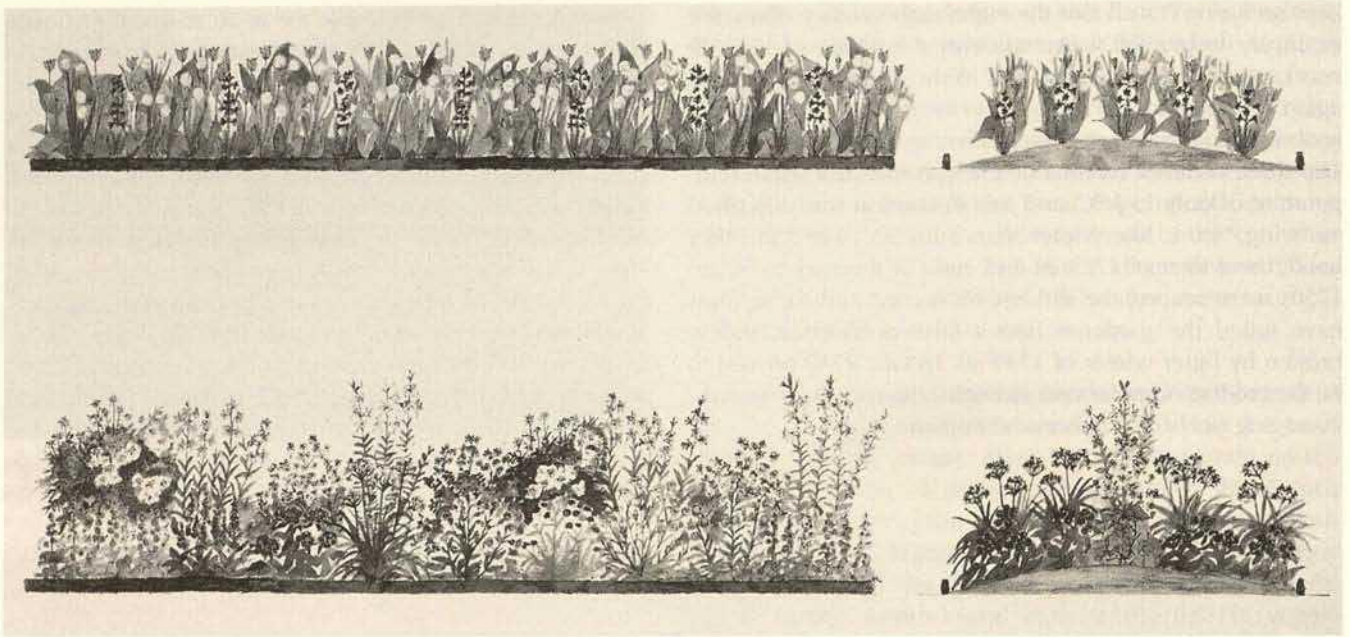
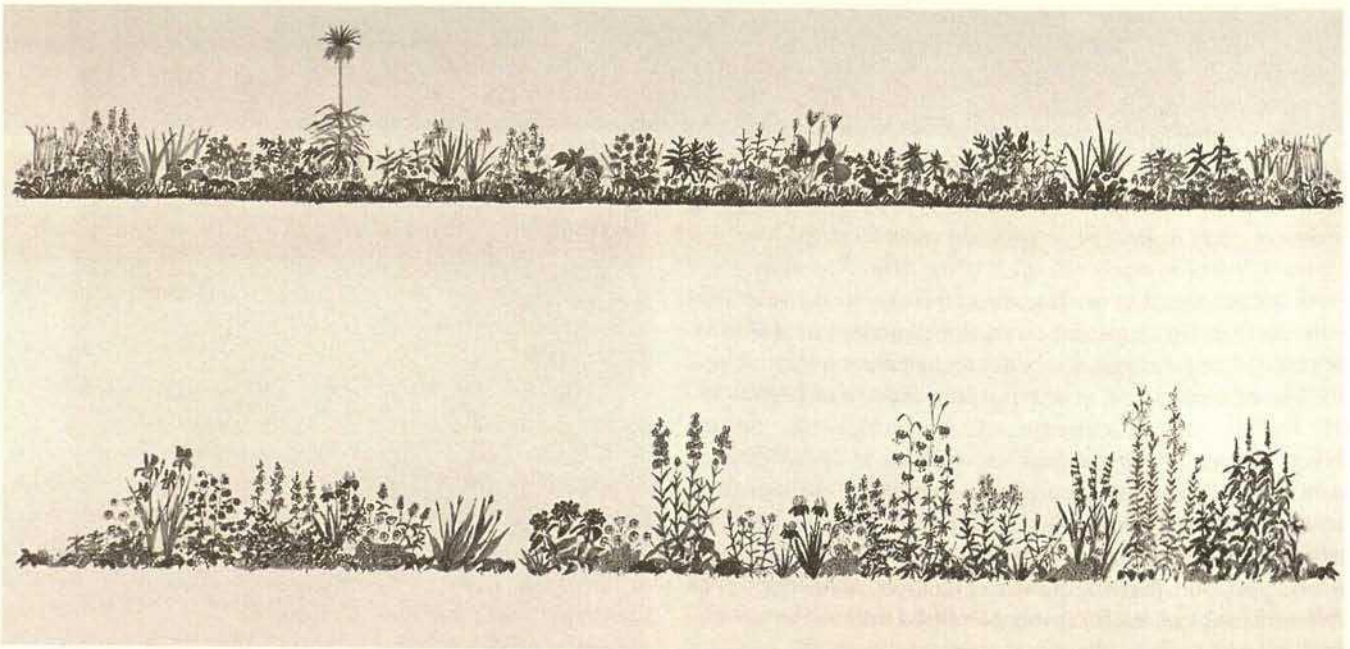


Fig. 6. Reconstruction as elevation and section of the planting plan for the Grand Trianon, Versailles, dated August 1693. Unlike A.J. Dezallier d'Argenville's specification for three seasonal "Décorations" (or the fortnightly "plunged" displays of the Trianon), this plan represents a spring and summer display rolled into one scheme (watercolour by the author)

what happened to plants in the bitter winter of 1739/40 is instructive. Although most of the *Magnolia grandiflora* were destroyed by the frost, his own plant at Chelsea Physic Garden appears to have lived on, producing new shoots from its base. At the same time, he commented on how the *Callicarpa americana*, first introduced by Mark Catesby from Carolina in 1724, were mostly obliterated, "so that until the Doctor [Dale] sent a fresh supply of seeds in 1744, there were scarce any of the plants living in the English gardens."¹⁴

What this means is that there must have been a moment during the late 1720s and 1730s when, in the generally warm conditions that prevailed, English gardens enjoyed something of a golden decade. Given that in these years many rather tender exotic flowering shrubs came into Britain from south-eastern North America (*Amorpha fruticosa*, *Catalpa bignonioides*, *Wisteria frutescens*, *Calycanthus floridus*) and that gardeners were experimenting with new planting systems in the wilderness (fig. 7), it is fair to say that the landscape garden emerged at a felicitous moment.¹⁵

Fig. 7. Reconstruction as elevation of the specification for a flowers border at Goodwood, dated October 1735. A successional blooming from spring to summer may characterize the English formal border, standing in contrast to the seasonal displays that typified the French Baroque plate-bande (watercolour by the author)



Whether, of course, we can conclude that climate as such helped to create the planting features of the landscape garden – the shrubbery and island beds of flowers – is best left for future scientific research.

If we need further encouragement to undertake that research, an article in a recent edition of 'Nature' surely provides it.¹⁶ Dr Euan Nisbet of Royal Holloway College, University of London, argues that Jane Austen's famous "error" in her novel 'Emma' – describing apple trees in bloom in June – may have been based on accurate observation of the summer of 1814, the year she began writing her celebrated work. 1814 was apparently one of the worst on record. The mean temperature in May and June were even colder than 1816, when volcanic dust from Mount Tambora veiled the sun. It is possible Jane Austen saw apple blossom on two of the warmer days, June 14 and 15, before the weather broke. According to Nisbet, that first day was at Painshill

Park; the second at Box Hill, which became the setting for the excursion in the novel. Of course, this discovery does not affect the practical conservation of Painshill, but it adds richness to the interpretation of the site and confirms that even literature can be reliable pointer to meteorological data.

In summary, 'global warming' may make apple-blossom in June a more frequent occurrence, like 'hurricanes' in October and drought in August, but clearly wide fluctuations in climate and weather have always been part of gardening over 300 years. Whether, however, we are able to reflect those variables of the past by a more sensitive approach to planting reconstruction, while at the same time contending with a possible increase in very extreme weather patterns, remains an open, and rather unsettling, question for the future.

FOOTNOTES

- 1 Quoted from E.S. de Beer, *The Diary of John Evelyn*, 6 vols., Oxford, 1955, vol. V, p. 550.
- 2 Mark Laird, *Ein Gartenplan für Upper Gower St. 13*, London, pp. 82-94 in: Erika Schmidt, Wilfried Hansmann and Jörg Gamer (†), (Hrsg.) *Garten Kunst Geschichte*, Worms am Rhein, 1994.
- 3 Mark Laird, *The Flowering of the Landscape Garden: English Pleasure Grounds, 1720-1800*, due out from University of Pennsylvania Press, Philadelphia, December 1998.
- 4 Quoted from Edmund Berkeley and Dorothy Smith Berkeley, *The Correspondence of John Bartram 1734-1777*, Gainesville, 1992, p. 312.
- 5 Quoted from Isabel Wakelin and Urban Chase, *Horace Walpole: Gardenist*, Princeton, 1943, p. 241.
- 6 Tom Wright, *The British Climate and Weather during this Epoch*, in: *Planting of Gardens, 1660-1705*, a collection of papers prepared for a research seminar at Chelsea Physic Garden, October 26, 1992, edited and distributed by Lorna McRobie, English Heritage, February 1993. Keith Goodway's paper was entitled 'Seasonal and Annual Changes in Planting'.
- 7 For background reading, see Mark Laird and John H. Harvey, 'A Cloth of Tissue of Divers Colours': The English Flower Border, 1660-1735, in: *'Garden History'*, vol. 21, no. 2 (winter 1993), pp. 158-205, and Jan Woudstra, *The Planting of the Privy Garden*, in: Simon Thurley, (ed.), *The King's Privy Garden at Hampton Court Palace 1689-1995*, special edition of 'Apollo', London, 1995, pp. 43-78.
- 8 John James, *The Theory and Practice of Gardening*, London, 1728, pp. 260-61.
- 9 See again Woudstry, as in note 7, p. 66 and Laird and Harvey, note 7, pp. 172-73.
- 10 James, as in note 8, p. 264.
- 11 H.H. Lamb, *Climate, History and the Modern World*, 2nd edition, London, 1995, p. 243.
- 12 The publication of Annie Christensen's *The Klingenberg Garden Day-Book, 1659-1722* Copenhagen, 1997, trs. into English by Peter Hayden, offers the kind of records that are needed to understand the minute variations in planting occurring as a result of weather fluctuations.
- 13 Quoted from de Beer, as in note 1, vol. IV, pp. 364-65.
- 14 Philip Miller, *The Gardener's Dictionary*, 8th edition, London, 1768 under "Johnsonia"
- 15 See Mark Laird, *From Callicarpa to Catalpa: The Impact of Mark Catesby's Plant Introductions on English Gardens of the Eighteenth Century*, in: Amy R.W. Meyers and Margaret Beck Pritchard (eds.), *Mark Catesby and The Natural History of Carolina, Florida and the Bahama Islands*, due out from University of North Carolina Press, Chapel Hill, 1998.
- 16 Euan Nisbet, *In retrospect*, in: 'Nature', July 10 1997, p. 137. Ironically, there is a major "error" in Nisbet's account of Painshill – a confusion over the identity of Charles Hamilton, who is assumed to be Sir William Hamilton of Naples, whose wife Emma, Lady Hamilton, had an affair with Horatio Nelson – but this should not undermine the validity of his observations on climate and weather.