



Time stands still at Burghley

Words: Paul Barnes

Photographs: Paul Barnes and Burghley House

Will Andrewes has installed the centrepiece of the Garden of Surprises at Burghley House: a thing of wonder, the Longitude Dial. This involves fussing with a piece of string tied at each end to some fencing. This is precision fussing, a highly technical business involving running the string between finger and thumb, and leaning down now and then to take a sighting along its length. One word that crops up quite often is “meridian”. The Longitude Dial is being placed on exactly the right spot on the earth’s surface, the place for which it has been designed down to the last tiny detail.

Longitude Dial? We would know it better as a sundial. This one is an up-to-date version of what may be the oldest scientific instrument of all. It’s about 3,500 years since somebody realised that if you observed the passage of the sun by the shadow it threw you could tell the time of day, and the month of the year. The ancients thought that it was the Sun that revolved round the Earth, but even when

it was realised that it was the Earth that did the revolving while the Sun remained stationary, the principle remained the same: you could rely on that shadow.

Garden centres sell what they call sundials, which might be just the thing to lend a spot of class to the terrace or the lawn, but most of these horticultural adornments are like clocks without springs; they may look the part, but don’t try and set your watch by one.

Will’s dial is time-perfect, and more ornamental than any garden-centre effort. It is stunningly beautiful, a combination of clock, calendar and atlas with the details etched into the polished surface of a rich, dark igneous rock called gabbro, found in the Far East. The rock selected by Will and his expert colleague Gary Hahn for the Burghley House dial was quarried in China. It’s what Will calls “microfine”, dense enough and dark enough to take even the most delicate hairlines in the dial’s design, etched by laser using a refinement of the techniques evolved by the suppliers of headstones for cemeteries.



Below: Will Andrewes and Gary Hahn fine-tune the Sundial at Burghley House

It really is an exquisite marriage of old science with new, a fulfilment of Will's original aim, to make an accurate time-piece that has no moving parts, combining science with art, and the latest technology coupled with fine craftsmanship.

Will, now in his mid-fifties, was born in England, but for thirty years he's lived in America. Yet even now there's not the faintest trace of an American accent. His entire working life has been bound up

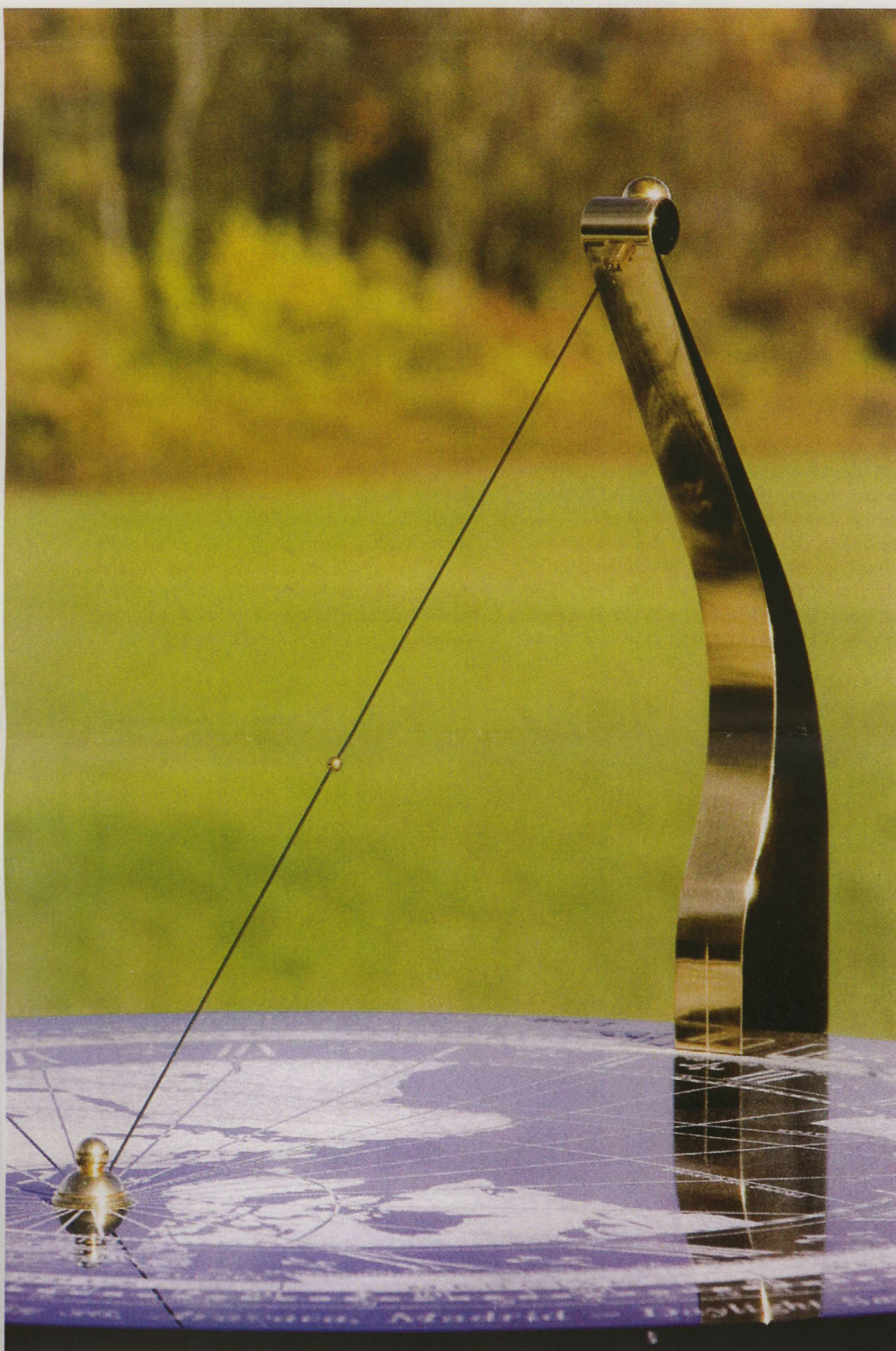
with time. As a teenage schoolboy he helped out in a London clockmaker's workshop and went on to study three-dimensional design at Kingston College of Art. After teaching design and clock making at Eton he took charge of the National Maritime Museum's collection of precision clocks at Greenwich. In 1977 he went to America to run the Time Museum at Rockford, Illinois; ten years later he became Curator of Harvard University's historic scientific instrument collection.

It was while he was at Harvard that he encountered Dava Sobel, author of *Longitude*, the surprise bestseller of 1995, the dramatic account of the search for a solution to time-keeping at sea; without an accurate time-keeper sailors were lost as soon as they were out of sight of land. Sobel tells the story of John Harrison, the English clockmaker who for forty years was obsessed with the problem and solved it with the invention of his chronometer. The first acknowledgement in Sobel's book is to William J.H. Andrewes "for first introducing me to the lore of longitude". And she has one of his Longitude Dials in her garden at East Hampton, New York.

We've moved indoors to the warmth of the Orangery Tea Room. Over coffee and sweet, sticky cakes I ask Will how he would set about selling me one of his sundials, if I wasn't already convinced on the strength of what I'd seen of how desirable it would be to have one. "I think sundials have a certain charm to them," he says, slightly understating his case. "You can watch them and watch the Earth move; they let you see the Earth turn. They take us back to a time when time itself was not so frenetic and our days were ruled by the sun."

The truth is that our days still are ruled by the sun. We might tell the time by clocks and watches that we set by broadcast time signals, which in turn are governed by an atomic regulator in some laboratory. But even that regulator has to be adjusted by fractions of a second to accommodate the movement of the Earth in space. The sundial needs no such adjustments; the time it tells is always related to the position of the Sun and the Earth.

Returning to the business of selling a sundial, Will goes on to say that each is an individual. "You can go out and buy what you think is a unique watch, but it's not unique. A lot of the parts are completely standard, and there may be thirty or forty watches, or a hundred of exactly the same type. Every single longitude dial will be different because your home will vary in latitude and longitude from someone else." In other words it's customised, it





places your home at the centre of the world. The centre of the world map on the Burghley House dial is Burghley House; even more precisely, the centre is the Garden of Surprises. And more precisely still it is at Latitude - 52 degrees, 38 minutes, 32 seconds North; and Longitude - 000 degrees, 26 minutes, 49 seconds West. Which is why Will was fussing with that string.

The unique placing of the dial allows the incorporation of other unique features, lines on the map that mark significant events. The Burghley dial has lines for the birth and death of William Cecil, the first Lord Burghley: 13th September, 1520 and 4th August, 1598. On those dates the shadow cast by the bead on the gnomon - the wire stretched above the dial's surface - will follow the line from sunrise to sunset. Gnomon derives from the Greek for "one who knows". The Burghley dial has another unique line: 1st April, 2007, the date of the opening of the Garden of Surprises.

The dial-stone was quarried in China, and shaped and etched in America. The plinth it sits on is fashioned of stone from

much closer to home, Clipsham in Rutland. It was carved on site by Burghley's resident stonemason Gwyn Watkins and his team. The toughest job he's ever tackled, Gwyn says. "Partly because of the scale of it and partly because it was very expensive stone and we were worried about damaging it in the process." The bill for the three pieces was about £6,000. Windsor Castle was built with Clipsham stone, and so were the Houses of Parliament. It has a buttery colour and it's full of tiny shell fragments. "It isn't a hard stone, as such," says Gwyn. "But it does weather well. It looks very attractive because of the shelling, and it's got different colours in it, bands of pink and yellow, that's the attraction of doing it in a single piece of stone."

The Burghley House Longitude Dial is beautiful and practical, impressive and intimate. It satisfies the eye while enriching the mind. A glance will tell us the time, but if we take some of that time to linger and look longer at the advance of a slim shadow across the face of the Earth we may begin to define the passage of our own existence. It's an experience that puts us in our place. All it needs is the sun.

