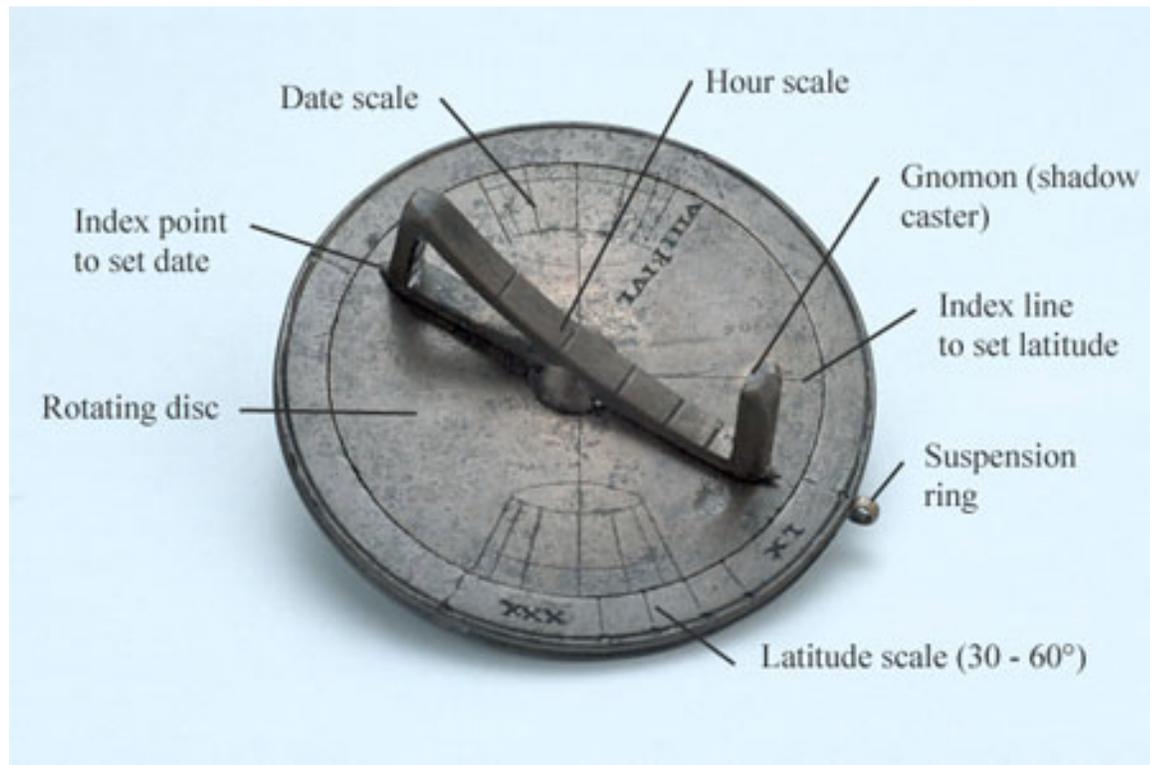


Review of *Roman Portable Sundials: The Empire in Your Hand*, by Richard J.A. Talbert, Oxford University Press, 2017. xxiii + 236 pps.

“Portable sundial” sounds like a joke out of *The Flintstones* or *Asterix the Gaul*. In fact, however, an in-passing mention by the Roman engineer and author Vitruvius (c. 80 BC - c. 15 BC) suggests that in his time they were reasonably common. Their manufacture continued in antiquity, in the Islamic world, in Renaissance Nuremberg (gorgeous luxury items made of ivory), and indeed they are still manufactured and you can buy them online.

The subject of *Roman Portable Sundial* by the classicist Richard Talbert is a particularly sophisticated form of portable sundial; those that are made to be *adjustable* to the latitude and date of use. Only sixteen of these have ever been found, and of those sixteen, five are now lost, and known only from published descriptions. Chapter 2 of the book, about half the text, gives a detailed description of each of these, amply illustrated with black-and-white photographs and line diagrams.

The sundials are all made of brass, bronze, or silver-plated bronze, ranging in size from a tiny 3 cm to 13.5 cm — wonderful displays of metalworking craftsmanship. One remarkable piece (#11 in Talbert’s list) consists of three orthogonal rings, which can be folded flat for carrying; the rest are essentially sets of disks, etched with guidelines. The specifics of the design varied from one device to another, but more or less, you align the disks properly using the latitude of your location and the date of the year, and then you hang it vertically and face it toward the sun, and then you see where either the shadow of the sun or its light shining through a pin hole falls, and you can read off the time of day.



Museum of the History of Science, Oxford

All but one of the sundials had inscribed on it some number of place names. In a few, these are inscribed next to the guideline for that location; but in most, there is provided, inscribed on the face of one of the metal disks, a list of place names with their latitudes. The piece in the British Museum (#11), for instance, has 36 place names, ranging south to north from Meroe (in present day Sudan, outside the Roman Empire) to Britain and east to west from Spain to Syria; the latitudes are mostly accurate to within one or two degrees.

The listing of place-names and latitudes is in itself remarkable. Aside from these sundials, only one other such list survives from ancient times: Ptolemy's monumental *Geographia* (written c. 150 AD). The *Geographia* lists latitude and longitude for about 8000 places, ranging from the Canary Islands in the west to the Pacific coast of China in the east, and from central Africa in the south to Scotland in the north. Scholars, including Talbert, view the success of the *Geographia* as the inspiration for the lists of latitudes on the sundials; but the actual figures on the sundials are often different from those in the *Geographia*, so it was not actually the source of the information.

Not much is known about the portable sundials. A couple turned up in archaeological sites, which provides a little context, but mostly they turned up either in the ground somewhere, or on the shelves of an antiquities dealer or a museum. The only textual reference to portable sundials in classical literature is the single sentence from Vitruvius, mentioned above. Thus our only source of information is the objects themselves. Often it is possible to specify an earliest possible date (*terminus a quo*); for instance, several of the sundials include Constantinople in their list of place names, and therefore date no earlier than 320 AD, when Constantinople was founded. Talbert never gives any latest possible date (*terminus ad quem*); presumably there is nothing useful that can reliably be said. We don't know who manufactured them or where, though for one or two, the list of place names is suggestive; for instance, on piece #9, at the Vathy Archaeological Museum in Samos, all the place names listed are in present-day Turkey.

Most important, we don't know who bought them or what they used them for. The only possible clue is the list of place names: which places were included and what order they are listed. Some of the lists are simply arranged south to north, but others, intriguingly, seem like they might reflect a possible tour. Accordingly, Talbert and his colleagues go through these with a very fine-toothed comb, hunting for any possible insight; they use imaging technology to recover texts now illegible to the eye, they correct mistakes, and they debate the possible identities of names that are ambiguous (for instance, there were several cities named "Antioch" in Roman times.) In the end, though, it remains speculative to what extent the owners of the sundials actually found them useful in their travels, and to what extent they were just toys that served as status markers of wealth, education, and scientific interest.

Life in Roman times was presumably less rigidly regulated by clocks than modern life; but the proliferation of sundials, portable and fixed, does suggest that the Romans felt that it was important to know the time of day. There are also other indications of this: there are laws and regulations formulated in terms of the time of day; and there are literary descriptions, mostly mocking, of people who regulated their lives by the clock. Most curiously, from our point of view, there are more than eight hundred surviving funerary inscriptions that state, either the hour of death, or the length of the deceased's life in years, days, and hours.