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Sundials

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Sundials

Der Schatten eines Baums war wohl der erste Zeitmesser und der direkte Vorläufer der Sonnenuhr. Die Römer waren verrückt nach ihr und selbst heute, nach über 3500 Jahren, hat die Sonnenuhr nichts von ihrer Faszination verloren.

What was the first *timepiece*? Probably a tree, *casting* a shifting shadow, long to the west in the morning, short to the north at mid-day. *Sundials* clearly began as a perfectly *obvious* fact of nature. Then, as we began asking more of them, they opened into a *mire* of complexity.

My son, home last week for a visit, brought a computer program he'd written. It *predicted* sunrise, sunset, and solar position – for any place, any date, any time. The very *intricacy* of that program told how hard it is to interpret a tree's shadow as the sun *wheels* through the passing year. The simpler sundials told us only when it was noon, or they named the summer *solstice*. Before they could tell us the time of day throughout the year, we'd have to learn far better to read their shifting shadows.

The oldest known sundial was made in Egypt in 1500 BC. It was L-shaped. The top of its vertical leg cast its shadow on the horizontal leg. The shadow's length, not its location, roughly indicated the time. A *vast* variety of shadow-casting *devices* followed in the *ancient* world – L-shaped, *bowl*-shaped, step-shaped – even a light beam cast by a hole in a darkened room. The great ceremonial Egyptian obelisks may have doubled as huge sundial indicators. The Book of Kings tells how Isaiah called on God to make the shadow of an 8th-century BC sundial move backward.

But it took the astronomers and geometers of Hellenistic North Africa to make sundials into reliable instruments and to *regularize* the telling of time. Hellenistic *time-keeping* devices *appealed* to the organized Romans. By the first century BC they'd *erected* so many in Rome that one angry citizen wrote,

Let the gods damn the first man who invented the hours, ... who set up a sundial in this city! ... He has *chopped* the day into *slices*. When I was young, there was no other clock but my *belly* ... Now we [eat] when it pleases the sun.

Actually the Romans sliced the day up differently than we do. They divided day and night into 12 hours each – summer and winter alike. Hours had different lengths in light and dark.

Middle Age

watch
making *see list
clear
mess
foresaw
complexity
rolls
*see list
huge
objects ... old
basin
make ... regular
time telling ... were attractive
built
cut ... pieces
stomach

Sundials became the common time-tellers of *medieval* Europe. You find vertical dials on the outer walls of Chartres Cathedral and Cluny Abbey. Complicated water clocks were the high-tech of medieval time-telling, but more for show than tell. The simple clock-like faces of sundials provided all the social regulation anyone really needed in the medieval world.

When I was a Boy Scout, as late as the early '40s, I carried a small flat *brass* case that held a compass, a sundial, and a table of corrections. The sundial was still there, still alive and active in my own lifetime – after three and a half millennia. ■

Prof. Dr. John Lienhard, University of Houston

<i>timepiece</i>	Zeitmesser
<i>cast, to</i>	hier: werfen
<i>sundial</i>	Sonnenuhr
<i>obvious</i>	offensichtlich
<i>mire</i>	Morast, Schlamm
<i>predict, to</i>	vorhersagen
<i>intricacy</i>	Komplexität
<i>wheel, to</i>	rollen
<i>solstice</i>	Sonnenwende
<i>vast</i>	riesig
<i>device</i>	Gerät
<i>ancient</i>	antik
<i>bowl</i>	Schale
<i>regularize, to</i>	regulieren
<i>time-keeping</i>	Zeit anzeigend
<i>appeal to, to</i>	reizen, ansprechen
<i>erect, to</i>	errichten
<i>chop, to</i>	abschneiden, hacken
<i>slice</i>	Scheibe, Stück
<i>belly</i>	Bauch, Magen
<i>medieval</i>	mittelalterlich
<i>brass</i>	Messing

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