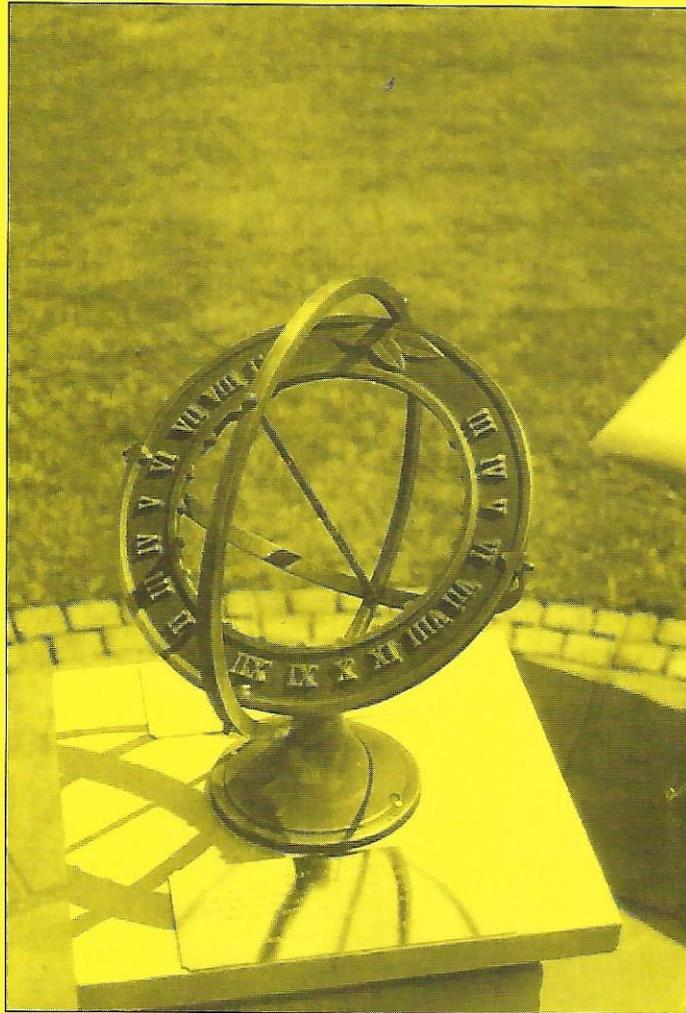


The British Sundial Society



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The involvement of the Royal Engineers resulted in another sundial to the same design being built outside their Museum in the Brompton Barracks at Chatham. (Fig.2) The Tylers and Bricklayers Company also had the opportunity to present a third sundial of this design to English Partnerships, who are redeveloping the Greenwich Peninsula. This one is located midway between the Dome and the Thames Barrier, on the east side of the peninsula near the Millennium Village. (Fig.3) We hope that all three sundials will prove a lasting point of interest to visitors, and a lasting point of pride to the team who worked so hard to produce the final, outstanding result.

A paper on the design and building of the three Tylers and Bricklayers will be presented jointly to the 2001 British Sundial Society Conference by Piers Nicholson and Lt. Col. Ian Ogden of the Corps of Royal Engineers. Two of the sundials form part of the new Thames sundial trail in London, which is described on the Internet at www.sundials.co.uk/~thames.htm

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MEDIEVAL MONASTIC SUNDIALS WITH SIX SECTORS: AN INVESTIGATION INTO THEIR ORIGIN AND MEANING

MARIO ARNALDI

The four-part and the octaval systems of day-division, as used by the Anglo-Saxons among others, are of great antiquity¹. So also is the six-part system, the main topic of this article. Not every known medieval sundial shows the same number or arrangement of time lines. Apparently the lines were often positioned in an arbitrary way, sometimes with irregular angular separations. Moreover, the number and the position of the hour lines of prayer time engraved in the European medieval sundials could vary depending on the different monastic rules, on the liturgical times and on papal beads.

The sixth century rule of St. Benedict of Nursia required that the services of None, Vespers and Compline should take place considerably earlier than had been the previous practice, hence requiring the moving back, in abstract or in reality, of all the lines of the monastic sundial. Many time indicators therefore followed real temporal models, having four, six, eight, ten, eleven, or twelve partitions and even more. Among these systems we propose to consider one in particular, the division of the artificial day into six equal parts.

TEMPORAL HOURS AND CANONICAL HOURS

It is first important to understand what was the ancient definition of "hour". All the medieval texts, including those written by the most famous authors, take their basic information from the books of Isidore of Sevilla or those of the Venerable Bede, where in each case it is clearly written that an hour is the twelfth part of the day, whether the day be long or short (*Hora duodecima pars diei est*). This fraction of time could be further divided in smaller,

infinitesimal parts, useful only for astronomical, astrological or calculation studies². For practical use it was enough to partition the hour into two halves (*semis*), rarely smaller periods, and in any case to do so in an approximate way (*circa hora tertiam, quasi hora sexta*).

The time line engraved on a medieval sundial indicated the end of each hour, or of part of it, but it never indicated the beginning, or the exact instant as happens today, because the hour was measured as a whole period of time.

During the Middle Age monks and Church people were almost the sole users of sundials, their object being to govern the diurnal time for prayers. Over season and place the ancient twelve time spaces changed their location and their number. Their length changed, therefore, based on the number of hours engraved on the sundial. That is why it is not possible to make a comparison between modern and monastic hours (even computer calculations give misleading results) and the way to understanding is to start from a different point of view, similar to the medieval way of thinking. Furthermore, the majority of the medieval sundials of churches and monasteries were not based on any astronomical knowledge. We understand that sundials, even in ancient time, were often used as a symbol of the time passing, a kind of "*memento mori*" for monks and layman. They merely represented a graphic description of the sky. The simple method of dividing a semicircle in as many sectors as was required by monastic discipline was more than sufficient to indicate both liturgical and secular time.

Until the beginning of the sixteenth century the day's division into six parts, including variations within this system, was one of the several different time systems used in Europe. What was the source of this particular splitting? For what reason did it survive for such a long time, even beside such other systems as the duodecimal and four-part ones?

It is difficult to find an answer, but it may be possible to find understanding up to a certain point by the careful reading of those medieval texts that have played a teaching role for many centuries.

THE BABYLONIAN DOUBLE HOURS

It is well known, thanks to some lucky finds in the Mesopotamian region during the last century, that long before the destruction of Nineveh (607 BC.) ancient Babylonians and Assyrians divided the entire day, including night-time, into twelve hours called *Kaspu* or *Beru*. We know this principally through two of the many reports constantly sent to the Assyrian kings by the priests of Nineveh. By reading these two tablets it is evident that the unit of time used in that period, the *kaspu*, lasted two equinoctial hours, these being measured with accuracy probably using, as Sextus Empiricus and Macrobius wrote³, water instruments⁴.

This time unit, closely connected to the zodiac, was introduced into Greece, where it was later divided in two halves to form the twenty-four equinoctial hours used later in the whole Roman Empire. The double hour, considered as a single unit, lasted during both classical and late antiquity (note 1). Numerous texts testify to this, for instance *'Adversus Octaginta Hæreses'*, written in the fourth century by the Cypriot bishop Epiphanius, where he set out some particular computation uniquely soluble and understandable using the double hour system⁵. The double hours survived sporadically until the eight century, when the Venerable Bede gives an unquestionable description of it in one of his best scientific works, the *'De temporum ratione'*. In the thirty-ninth chapter, Bede clearly writes that some computators of his time measured the year's length to be 365 days and three hours, instead of six. This computation, heavily criticised by Bede, is understandable only if the division of the entire day is considered as twelve equal parts, instead of twenty-four. Nevertheless, despite this important testimony, only one six-sectioned sundial of this period has ever survived: the one at Pittington⁶.

Some very ancient Irish monastic sundials have a strange anomaly in the position of the hours of Terce and None celebration. The lines referring to these prayers are located symmetrically at 60 degrees to the midday vertical line, and

thus the 30 degrees separating them from the horizon are equivalent to the space occupied by two temporal hours⁷.

It is well known that a very ancient source for computation in Ireland came from Greece⁸, but it is not possible to establish the intensive use of double hours in the sundials of the VII / VIII centuries. It appears to be just a mere question of computation or very small communities. In fact, many monastic sundials, equally six-sectioned, that have reached us, have resulted from a cultural renaissance that happened later on, at the great French and German medieval schools.

THE COMPUTUS OF PHILIPPE DE THAON

As we have noted, the double hours method of division seems to reappear during the twelfth century, when so many classical and Arabic texts were rediscovered. Although the reference was no longer to equinoctial time, but to artificial time, the hours of the Divine Office well fitted the same partitioning.

The position of the canonical hours in the six-part division of the day is made perfectly evident by Philippe de Thaon in his poetic treatise on ecclesiastical computation, written in 1113 / 1119⁹. In these rhymes Philippe describes the practice, in both popular and religious spheres, of assembling the twelve temporal hours in six groups of two hours each: three groups for morning, three for the afternoon. This is how his verses sound in antique French idiom:

<i>Nepurquant par demures,</i>	And so this amount of time
<i>Que nus apelum 'hures',</i>	That we call 'hour',
<i>En est divisïun</i>	Is divided
<i>Par itele raisun,</i>	In this way,
<i>Char prime apelent le une,</i>	That the first one is called
	'Prime',
<i>Tierce, midi e nune,</i>	'Terce', 'midday' and 'None'
<i>La quinte, remuntee,</i>	The fifth one, 'arising'
<i>E la siste, vespree.</i>	And the sixth one 'Vesper'.
<i>Encore entre chascune</i>	Nevertheless, inside each
	dwelling
<i>En i laissent il une,</i>	They skip one [temporal
	hour],
<i>Ço est pur le cunter</i>	This is for to count them
<i>E pur tost remembrer.</i>	And for remembering them
	easily.
<i>Mais ki dreit volt numbrer;</i>	But men who wish to number
	them aright
<i>Duze en i pot truver;</i>	Twelve at all may find;
<i>En ordre lur curs</i>	In order to follow their course
<i>Tenent tuz a estrus.</i>	They will start again from the
	beginning.

Philippe's text is particularly clear¹⁰, and represents some of the best evidence as to this subject. The author divides the day into six parts commonly called hours (*hures*) or dwellings (*demures*) (note 2). The first has been given the name of 'Prime' (*prime*), the second one 'Terce' (*Tierce*), the third one 'midday' (*midi*), the fourth one 'None' (*nune*), the fifth one 'arising' (*remuntee*) and the sixth one 'Vespers' (*vespree*). It is a mixed method of time location, in part ecclesiastical, in part popular. Certainly we are not talking about canonical hours exclusively, since the '*remuntee*' is not a prayer time. The six '*demures*' of which Philippe wrote are equal and each comprises two temporal hours; this fact is confirmed by the line: «*Encore entre chascune / En i laissent il une*», that is to say: inside each section we skip one [temporal hour]. This method was just a practical way to remember easily the various moments of the day (*Ço est pur le cunter / E pur tost remembrer*) because, as he wrote, the correct number of the hours is still twelve (*Mais ki dreit volt numbrer, / Duze en i pot truver*).

It is not easy to understand whether the names given to the six hours quoted by Philippe de Thaon refer eventually to the lines of the sundial, but if so, to which does he refer? It would appear most likely that he refers to the whole hour, that is the entire space between each line. But which line gives the name to the hour, according to Philippe de Thaon?

Dante Alighieri and Francesco Da Buti named the different parts of the day by using the name of the last line composing the section, not paying attention to the number of temporal hours included in it. But, more often, their name derived from the religious service celebrated at the beginning or at the end of the section. Dante, for instance, thought that the names of the four sections of the day were designated by the final temporal hour. In fact the name of the first part is 'Terce', the second is 'Sext', the third is 'None' and the fourth is 'Vespers'. The four parts of daylight were often divided in two halves, forming the eight sections that we may see in many medieval sundials. These half points were called, because of their position, 'half Terce', 'half None', 'half Vespers'¹¹ (Fig. 1). Francesco Da Buti (we will see this author further on), on the contrary, used a method which appears more complicated than Dante's. He divided the day, probably in a secular way, into six equal parts taking into account only the final moment of each section: the moment in which the divine office was recited. But which moments does Philippe de Thaon use? Considering the names used for the six 'hours', we could say that the temporal moment giving name to the entire section is a moment set in the middle, most probably at the beginning of the first half (Fig. 2).

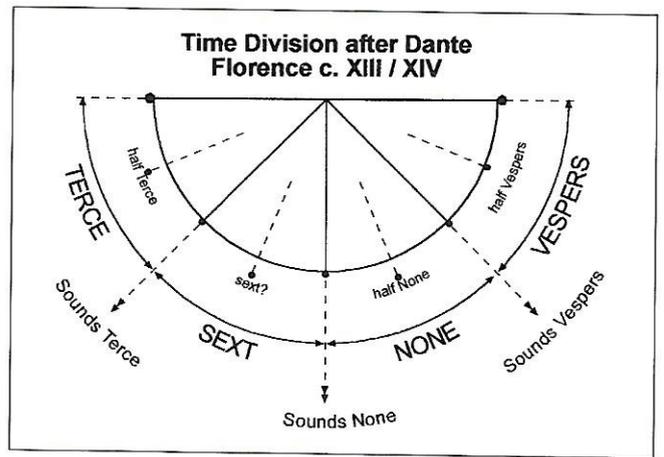


Fig.1. Time division scheme after Dante Alighieri, Florence, Italy, c. XIII.

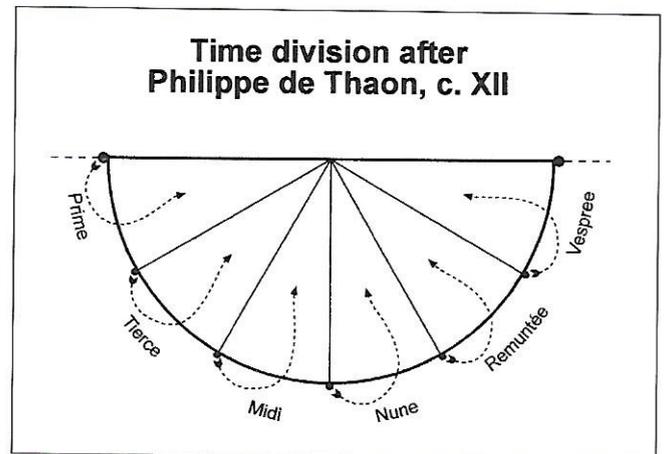


Fig.2. Time division scheme after Philippe of Thaon, France, c. XII.

The '*remuntee*' hour, the strange time located by the author after None, helps us to understand this matter. The '*remontée*' hour, or '*remontière*', also called the time of '*ravaler*' or '*relevée*', was the time of the waking in the afternoon following the short break for the noon meal, or, as we may read in the old statutes, the final moment of the afternoon rest of the workers¹². This hour is exactly located between '*basse nonne*' (lower None) and '*vespre*' (Vespers), sometime called '*haute vespre*' (highest Vespers).

Once again, as we have indicated in other articles¹³, the service of None is confirmed as the hour of the noon meal. If we follow the meticulous research of Gustav Bilfinger¹⁴ about the popular way to name day hours during Middle Age, we surely have no doubts in fixing the '*remuntee*' time on the final line of the eighth hour, which is the end of the fourth section in a six-sectioned medieval sundial. And this line marks precisely the hour at which, during the summer months, the resting period that had started a little after midday, ends. We may read this in the thirteenth century Book of Usages of the Cistercian monks¹⁵.

TEMPORAL HOURS AND ZODIACAL SIGNS

It is, of course, nowadays clear that there is a strong relationship between temporal, also called seasonal, hours and the movement of the ecliptic. Numerous older authors have expressed this.

In the eighth century, Bede was one of the first medieval writers to give us testimony, even if veiled, of that relationship. One hour, he writes in his *De Temporum Ratione*¹⁶, is partitioned in fifteen 'Parts'. The 'Part', writes Bede, takes its own name from the peculiar partition of the Zodiacal circle (*Partes a partitione circuli zodiaci*). One Sign is made by thirteen 'parts', that are like two equinoctial hours, half of a Zodiacal sign is like one hour and that is the time used by a half sign to ascend or descend over the horizon. This is almost what Byrhtferth of Ramsey says in his *Glossae*. With this, Bede considers the constant everyday rising of six Zodiacal signs over the horizon, as the cause of the different length of the days during the four seasons.

Honorius d'Autun writes more or less the same things (*Unum ergo quodque signum per duas horas oritur, per duas occidit*; 'Every Sign takes two hours for rise and two for set'). But this is not satisfactory enough to let us see a specific relationship between the division of the temporal hours and the movement of the ecliptic.

William of Conches, in his famous treatise *Dragmaticon Philosophiae*¹⁷, seems to confirm what we just supposed. His method of describing the notion of the 'hour' is so persuasive that Vincent of Beauvais (1190 - 1264), notwithstanding the well known descriptions of significant authors, like Isidore and Bede, just avails himself of William's *Philosophiae* in writing the chapters '*De partibus temporis et proportio de momentis et horis*' (Of the division of times and proportions of the moments and the hours) and '*De distinctione horarum equinoctialium in ortu et occasu signorum*' (Of the difference between the equinoctial hours during the rise and set of the zodiacal signs) of his well-known encyclopaedic work *Speculum Maius*¹⁸.

THE DRAGMATICON PHILOSOPHIAE OF WILLIAM OF CONCHES

It is not at all easy to unite the many aspects of the subject considered by the medieval authors. Often their assertions are less lucid than they may have believed, so we need to read between the lines and, taking great care, put together all the pieces. But William of Conches, one of the most representative luminaries of the twelfth century scientific-theological renewal of Chartres, is not so obscure. He, better than others, explains some concepts relative to the time-computation related to the movement of the zodiacal signs.

William exposed this concept so carefully that he writes: "Every day has XII hours, and every night also XII. In fact, every day six zodiacal sign rise and every night the other six". and Vincent of Beauvais adds: "What is called Zodiac is partitioned in XII equal parts said Signs, and sometime the day is long, sometime short, and the same at night".

As we noted above, the leading texts of that time concerning computation were those of Bede and Isidore, and such authors as Hrabanus and Honorius rested their theories chiefly upon them. In their books the hour is always defined as the twelfth part of the daylight.

William, on the other hand, determinedly assumes a new definition of the term 'hour': "the hour is the time employed by a half zodiacal sign to rise or set (*Hora est spacium in quo dimidium Signum oritur*)". With these few and clear words William of Conches overturns the old version of the hours' meaning, and, most importantly, he links its length to the real motion of the zodiacal circle. Bede and Honorius d'Autun required every sign to rise at intervals of exactly two hours; William, on the contrary, establishes the length of the hours according to the right times of the constellations. His thesis owes much to Martianus Capella for his explanation of the right and oblique ascensions times of the twelve Signs¹⁹.

NICOLAUS OF LYRA AND THE SUNDIAL OF KING ACHAZ

In the thirteenth century we find certain medieval authors describing time divisions employing different methods. One is a well-known Biblical commentator, the Norman Franciscan, Nicolaus of Lyra (1270-1340). We refer to him here because of the passage in the Fourth Book of Kings concerning the miraculous falling back of the shadow on King Achaz's sundial by ten steps.

Discussing what had happened on that famous occasion, Nicolaus indicated two ways by which the length of an hour was understood during his own time²⁰.

"Some men" - he wrote - "say that two lines (on a dial) make one hour, ... On the other hand, others say that one hour is shown by each dial line..."

Notwithstanding this, the drawings in the manuscripts do not show dials correctly divided into six parts but always into twelve. This could be an error made by the illustrator, but nevertheless many European sundials testify to the use described by this author. It is not unusual, in fact, to find medieval sundials twelve-partitioned but with the double hours marked with crosses or some other special graphic, as shown in Figure 3.

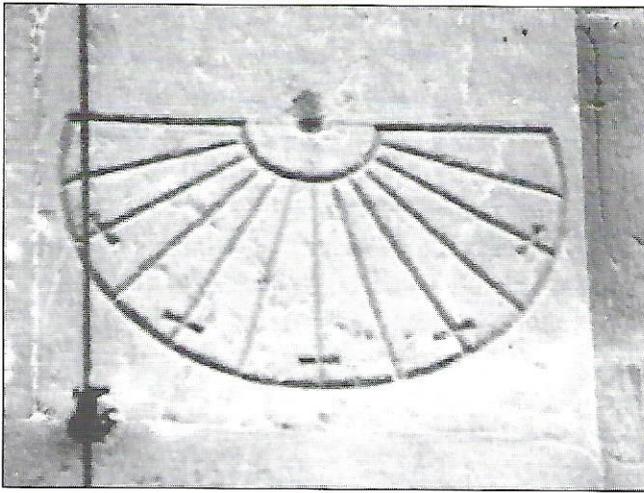


Fig.3. Medieval sundial on the Schöngrabern parish church, Grabern, Austria – lat. 48° 36'N; long. –16° 04'E. (photo by Karl Schwarzinger)

THE COMMENT OF FRANCESCO DI BARTOLO DA BUTI ON THE DIVINE COMEDY

In his Commentary to the *Divine Comedy* of Dante Alighieri, Francesco di Bartolo Da Buti (1324 - 1406) expressly refers to the relationship found between the twelve hours of the day and the zodiacal signs²¹. His work, although long known among scholars, was publicised only five centuries later and perhaps did not obtain its deserved recognition. But for us who take an interest in both gnomonics and the history of the time his work presents some points of real attraction. As I have already written in a preceding article²², commenting on the first tercet in the fifteenth song of Dante's *Purgatory*, Da Buti writes clearly about a six-parted daily division.

A first idea of what he thinks about is written in this little passage:

“In these five tercets, Dante denotes the time, and shows what happened to him, telling that the same space, between the ending of the third hour...; that means that the Sun has mounted up from the horizon to that point where is told Terce, because this is the third part of a half day”.

Here he gives us a strange, but arguable, etymology of the Service of Terce. In a few words, he tells us that that canonical hour is so named, not because it is the third hour of the day, but because it is only the third section of the space that runs between dawn and midday. His statement leads to a more accurate explanation of the division of the day in the period in which the author lived.

“And because I want to be more clear, we must know that our hemisphere is divided into six equal parts, from the east to the west. So the Sun mounting in the morning for the first part does Terce; for the second does Sext; for the third,

None and we have reached half of the day: then the sun begins to descend, and descending the first part, it does half Vespers; for the second does Vespers; and for the third, Evening”.

Six hours a day, and another six at night; an uncommon hourly division, but recognisable in many medieval sundials. The learned man continues:

“I will mark for ternary numbers those twelve parts up to 36, beginning from this last number, in order to complete twelve Signs (zodiacal constellations), because six come up in the day and six in the night. So at number 3 is called Terce; and at 6, Sext, and to 9 None, and descending from the ninth to the twelfth it does half Vespers, and then to the 15 it does Vespers; and at 18, Evening” (Fig. 4).

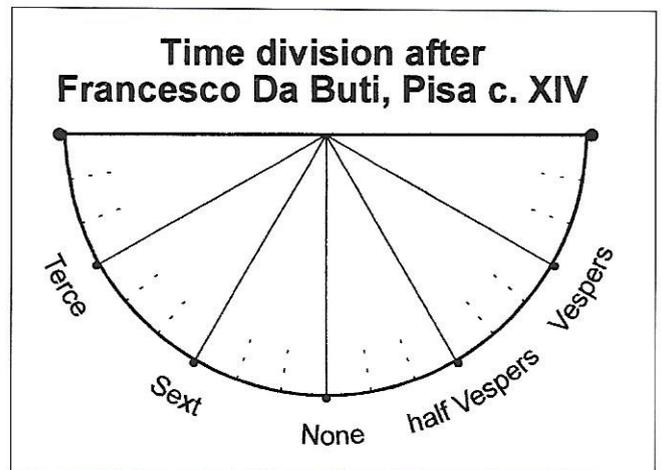


Fig.4. Time division scheme after Francesco di Bartolo da Buti, Pisa, Italy, c. XIV.

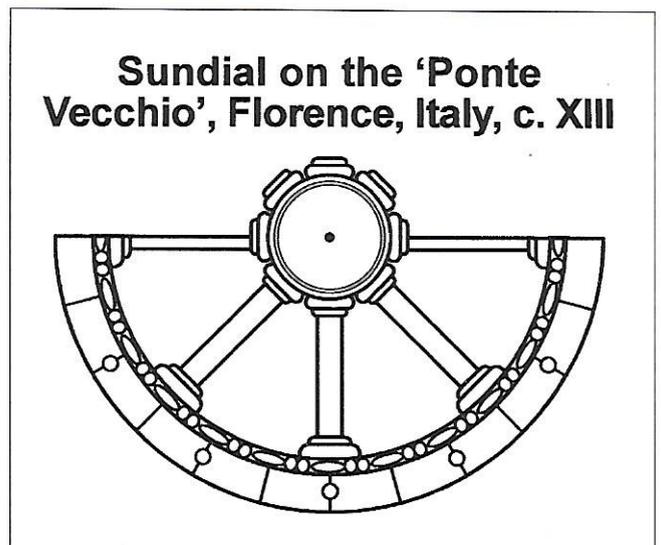


Fig.5. Medieval sundial on the 'Ponte Vecchio', Florence, Italy, XIIIth Century. On this dial are visible three medieval time systems living together: four divided by the wheel spokes, six divided by the nail-head-shaped reliefs on the outer board, and twelve divided by the radial lines on the external border.

The author here tells us no more. He does not reveal to us, for example, the origin of this daily division. But from his words may be clearly understood the teaching role of William of Conches or, if we prefer, of the French School (see Philippe of Thaon). Surely this teaching was filtered by Italian usage and relates almost exclusively to a canonical system. Maybe it is one of the last ecclesiastical systems of measuring time to be found before the definitive disappearance of seasonal hours²³. The old sundial on the Ponte Vecchio in Florence is one of the extant examples of the natural coexistence of the many hourly systems together in Italy (Fig. 5).

CONCLUSION

With the knowledge we have it is hard today to draw unquestionable conclusions, nevertheless we would like to try. The flourishing of scientific and philosophical thought in the medieval French and German Schools took place in the twelfth century. At this time the Roman division of the day into four parts was slowly given up, and new hypotheses formulated on the division of the day, either natural (twenty-four hours) or artificial (twelve hours). The introduction of the new Arabic texts into the Christian Europe of the Middle Ages spurred on the eleventh and twelfth century minds to read or re-read the classical books, then mostly previously unknown. The spread of the new scientific instruments, like the astrolabe and the quadrant, encouraged more and more men to verify the many astronomical and astrological theories. These innovations probably regenerated the division of the daytime into six portions, or double hours.

The relationship between the hours and the constellations, behind the logical heavenly mechanics, was already felt in the ninth and tenth centuries. Gregory of Tours, for instance, firmly pointed to the observation of the stars in order to know the right time for night prayer²⁴. Handbooks, mostly reminder sheets for the monks nominated to make the night calls, were drawn up in many monasteries²⁵. A well-known example is the famous poetry of the Archdeacon Pacificus from Verona on the *Horologium Nocturnum* (nocturnal clock). So renowned is it that we find it copied in many manuscripts.

Concluding, we may say that the double hour divisions of antiquity had a revival, after many centuries, in the educated and scientific environment of the great medieval schools, and made fit for the usage of those days. But there were six canonical hours too, and very often they did not correspond at all with their original place in a sundial, at the third, sixth and ninth temporal hours. The easy construction of the medieval sundial on a wall led the monks of that epoch to use a base graphic model made with six lines in a

semicircle, all equally spaced. It was, after all, easy to subdivide the quarter into three sectors. Handiness was more important to small religious communities living in country monasteries than making scientifically laid out dials. The anticipation of the canonical time of prayer was already deeply rooted in the twelfth century in Europe. This fact made inaccurate the reckoning of the right canonical times on the old four-sectioned sundials, and those, which were twelve-divided, were less practical. So it was extremely easy to remember the canonical hours just grouping the temporal hours twice at one time (as confirmed in the words of Philippe of Thaon). And then again they added preciseness to the four-sectioned dials and simplicity to the ones with twelve sectors. The six-divided day was, therefore, a suddenly well accepted new practice, and this is demonstrated by the very large number of sundials of this kind extant in France and Germany. From there they spread out to the closest nations linked by the great medieval pilgrimage roads.

ACKNOWLEDGEMENTS

I would like to give many thanks to Prof. Frank Evans who made excellent corrections to my poor English text.

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NOTES

Note 1. Bilfinger cites as testimony many very well known authors of the first three centuries. But because I want to study the middle age epoch, I just pass them now.

Note 2. *Demurée*, here takes the old meaning of 'to rest'; so, the Demures are simple amounts of time, as the Saxon *Tides*.

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¹¹D. Alighieri, *Convivio*, iv, xxiii, 14,16.

¹²*Glossarium mediæ et infimæ latinitatis*, p. 232, (1883); see 'Hora dicta de remontée', article 'Hora'.

¹³M. Arnaldi, 'Sundials Painted in the Cloister of an Italian Monastery', *B.S.S.Bull.* **98.1** 22-25, (1998) [hereafter: Arnaldi, *Sundials*].

¹⁴G. Bilfinger, *Die Mittelalterlichen Horen und die Modern Stunden*, p. 22-39, Stuttgart, (1892).

¹⁵Consuetudines, LXXXIII: "*Quod si dies jejunii fuerit, omnibus ordine prædicto celebratis, post sextam laicis fratribus præuntibus intrantes dormitorium pausent in lectis suis usque ad horam octavam.*" Trans. "That if it is fasting days, everything must be celebrated in the above said order, after the sixth hour the laymen brothers will go

in the bedroom and should stay in their beds until the eight hour".

¹⁶Beda the Venerable, *De temporum ratione*, Migne P. L. XC, col. 304 and glossæ.

¹⁷Guglielmo di Conches (William of Conches), 'Dialogo della filosofia', lib. iv, *Il Divino e il Megacosmo; testi filosofici e scientifici della scuola di Chartes*, a cura di Enzo Maccagnolo, dialogo IV, 241-453, Milano, (1980),.

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¹⁹Martianus Capella, *De Nuptiis Mercurii et Philologiae*, 1, 8, 844.

²⁰Nicolaus of Lyra, *Liber Vitae*, T. 1, *Regum IIII. xx*, Venetiis (1495).

²¹F. da Buti, *Commento alla Divina Commedia*, Pisa, (1858).

²²Arnaldi, *Sundials*.

²³Arnaldi, *Sundials*.

²⁴Gregory of Tours, *De Cursu Stellarum*, ed by B. Krusch, *Monum. Germ. Hist., Script. rerum merovin.* 1.2, Hanover (1885).

²⁵R. Poole, 'A monastic star time table of the eleventh century', *The journal of the theological studies*, 16, London (1915); Giles Constable, 'Horologium Stellare Monasticum', *Consuetudines Benedictinæ Variæ: (sæc. 11 – sæc. 14)*, cooperatibus D.F.Avagliano and others, Sieburg, apud Franciscus Schmitt, (1975).

PHOTOGRAPHING SUNDIALS

ANDREW JAMES

If I had to condense this article into three points, it would be "Carpe Diem" (seize the day!); use a tripod; and think carefully what the camera sees before you press the shutter.

The first is obvious; it is impossible to get a really good photograph in poor light (although the BSS Web site Dial of the Month recently featured a flash photograph taken after sunset ...). For the second, many fixed dials - unlike mass dials - are best photographed with long focus lenses or small apertures leading to long exposures. Both these need a steady platform for the camera - ideally, a tripod and cable release. Any support to steady yourself or the camera will help - can you somehow rest it and perhaps wedge up the lens?

Some thoughts on equipment: there is a huge range to choose from. Owners of medium or large format cameras, capable of giving the best possible image, should not need to read this article! As an amateur photographer, for twenty years I have used the same 35 mm single-lens reflex (SLR).

I used to use a 28-200 mm zoom lens all the time, but gradually acquired several fixed lenses instead; second-hand they are quite cheap and give better results than a wide range zoom. Some dials really need a long focus lens, as demonstrated below, so I have a 200 mm and a very unwieldy old 400 mm.

As I tend to travel to the scene by car, I do not mind carrying an SLR and a bag full of lenses, but compact cameras can give very good results, especially with a zoom lens; I have one and use it a lot. However I do feel that the Advanced Photo System with its smaller negative size was developed for convenience rather than image quality. Digital cameras are improving rapidly but at present they still cannot give results as good as film, particularly if long focal length is needed ("digital zoom" does not help here); but the better ones (still expensive) are more than adequate for many photographs and have the advantage that you can see instantly what you have taken. It is even easier to manipulate the image afterwards with software: nowadays