



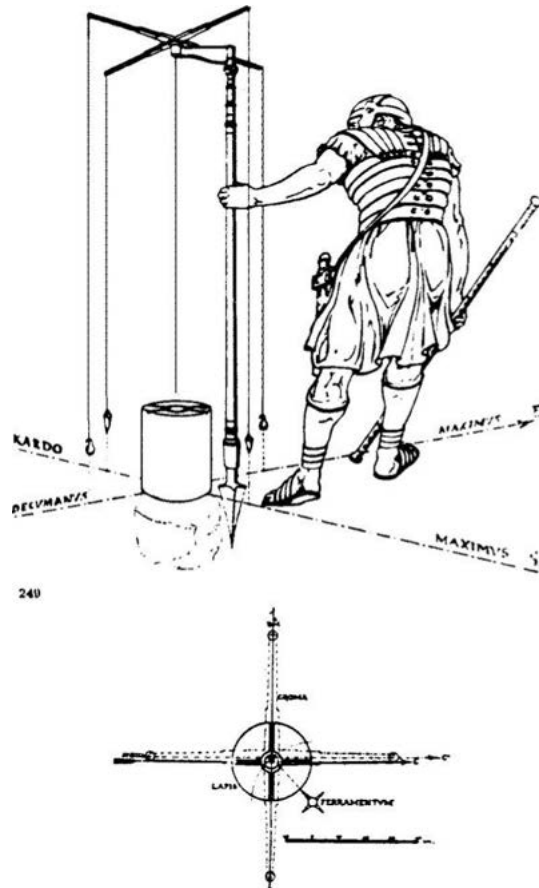
9. *La figura dello amussio dicussato oice (cioe?) intersecato et le scompartizioni del'hore del giorno et de la notte. The face of the sundial divided up, that is intersected, and the divisions of the hours of day and night. L'amussio collocato a la libella (the dial set by level). Illustrations of the 'rose of the winds' according to Vitruvius Engravings from Giambattista Caporali's 1536 edition (Perugia)*



10. Fragment of a Roman 'rose of the winds' of late Imperial date. The names of the winds are given in Greek and Latin; the numbers of the inner ring refer to the regions of the sky in the Etruscan discipline
After 'Philologus'. Vol. LXXXVI. section a. Leipzig. 1931. p. 200 University Museum, Prague

This is how Roman surveyors worked: a *sciotherum*, an upright bronze rod, was set in the centre of a circle, probably on a marble tablet. The shadow of the rod was then observed, and the two points at which its tip touched the circumference of the circle before and after midday were marked and joined; the chord was bisected, and the line joining the centre point of the chord to the rod was the *cardo*, while the chord itself was the *decumanus*.⁶⁵ Having established the main axes, or else accepted the orientation of some notable feature of the place, such as a main road like the Via Emilia, running through the site, the surveyor operated with an instrument called *groma* or *gnomon* (the *sciotherum* was also called *gnomon*, and this has led to some confusion). This was a composite instrument: a sheet-metal

cross (*stella*) with plumb-lines on each arm of the cross was set horizontally and eccentrically on a wooden frame (*ferramentum*) so that the cross could be sited directly over a tablet with a cross drawn on it (*decussis*), one of the main lines of which was made to coincide with the line (*cardo* or *decumanus*) previously selected by the surveyor. The lines were then established by inspection.⁶⁶ The *stella* on its *gnomon* was to the surveyor what the *templum* was for the augur: an 'essence' of his method. In fact a *stella* of bronze appears to have been fixed to the thresholds of *templa minora*,⁶⁷ and it may even be that the augural *lituus* also had a small *stella* fixed to it.⁶⁸



11. The Roman agrimensor at work. Reconstruction drawing by P. Frigerio After Frigerio, 'Antichi Istrumenti Technici', Como, 1933