Aug. 26th, 1958

Dear Mr. Josten,

Do you remember our letters of October-November 1954 about your mysterious Gaspart sundial. I have not yet solved the complete riddle, but can give you some new hints.

The Gaspart sundial is a modification of the instrument which is fully described in Bedos de Celles; GNOMONIQUE PRATIQUE; 2d ed; 1774, p. 356-364 and Pl. 38. On this plate, the sundial is marked Meurand à Paris 1774, and Bedos writes "C'est un cadran nouvellement inventé..."

The differences between Meurand's dial and yours are:

1°) On Meurand's dial, the equinoxial ring is round, while yours is oval.

2°) On Meurand's dial, the equinoxial ring can be adjusted for any latitude, while yours seems to be fixed at an angle of 40° with the horizontal, which would mean for a latitude of 50°.

I cannot give an explanation for the elliptic forme of the equinoxial ring. Meurand's dial is but an equinoxial ring fixed to a base-plate instead of being suspended. If the ring is not in the equinoxial (equatorial) plane, it would become elliptic; but this is only approximative and I wonder which would be the purpose.

As regards the use of the scale 40-0-40 on the base-plate, I can suggest the following solution:

An ordinary equinoxial ring is self-orientating. Only when the ring is in the equatorial plane falls the light-ray on the ring. It is quite easy to hold an equinoxial ring in the right position, by turning the instrument until the light-spot is seen on the hour-ring.

A table-dial based on the same principle would not be so easy to orientate: You have first to arrange that its base-plate should be perfectly horizontal. After what you should turn the whole instrument until the light-ray falls on the hour-ring; but by turning it you would most probably destroy the horizontality of the base-plate, a.s.o.

The Gaspart dial might be placed anyhow on any horizontal basement; after what it would suffice to turn the movable part (ring and its declination scale) on its vertical axis until the light-spot falls on the hour-ring. The index on the 40-0-40 scale would then mark the so-called "declination" of the pillar on which the dial is placed, i.e. its deviation from the N-S direction.

The Gaspart sundial might even be used for measuring this "declination" more easily than with the usual "faux-style" etc. (Bedos de Celles, Chap. VI, sect. 1)

I have not been able to decipher, on your photograph, what is written under the signature "Gaspart Fecit....." Is it "Lisbonne" ?

Yours truly

H.Michel