

Oct. 16th, 1954

Dear Dr. Josten,

Your letter of Oct. 14th at hand. Many thanks for Endeavour. Of course I can modify my article as convenient, and I have a quantity of photos for its illustration. As I have kept a copy, it will not be necessary to return the original text for alterations, and it will be enough to tell me what the editor wants.

Gravograph: I asked the belgian distributor to send you a quotation. He answers to-day that export to England is made from France and has written to the Gravograph and Vitos Co, Troyes, France, who shall send you a proposition.

Joze Gaspart: My files mention only one Gaspard: he worked in Lunéville (France). A large sundial in the Musée Lorrain at Nancy bears the signature: "Gaspard rue de Viller à Lunéville 1753". I cannot remember if this dial is similar to your description, but I think that it had something special. You might ask the keeper of the Musée Lorrain to send you a photo or at least a sketch.

There are several quaint dials and two or three splendid globes in this museum.

Your description is not sufficient to allow me to understand how the dial works. If you happen to have a photo or a sketch, I could gladly study it. It seems very awkward that a dial should have been made for all the latitudes between Rome and Cape Horn! Besides, an equinoxial dial which could be used North and South of the Equator would require, on its equatorial hour-ring, a double graduation: one, clockwise, on its face facing the North; an other, counter clockwise, on its South-looking face, and it ought to be arranged as sketched here below. Is that the case? The riddle is very interesting.

yours truly

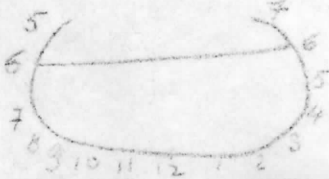
H. Michel

Oct. 26th, 1954

Dear Dr. Josten,

I am at a loss to explain the Gaspart dial. I can only make guesses. There are two details in your drawing which might help:

First the direction of the graduation of hours on the equatorial ring. According to your drawing, it goes counter-clockwise (see this sketch, which reproduces yours. This is very awkward and could only be explained if the dial was built for the southern hemisphere. This counter-clockwise graduation is also in use for magnetic dials (Bloud), but this can hardly be taken in consideration



An other point is the direction of the declination scale. I take it that it may be turned on the diametral axis. But the question is: is its normal position perpendicular to the plane of the equatorial ring, or parallel (sketches 2 & 3) ? If perpendicular, then it is simply a declination scale as in the ordinary equinoxial rings, and then one does not understand the oval form of the ring. If parallel, then one can imagine that a pin could be inserted in the hole, and the dial would then work as an analemmatic dial. But then what of its inclination on the horizontal plane ?



You tell me that the equatorial ring is fixed to the base at an angle of ca 40° . The way it is fixed, as represented in your drawing seems somewhat quaint. Is there no articulation ? You know, of course, the equatorial dials by Willebrand, Martin and Bergauer, the inclination of which can be regulated with an helicoidal device placed under the base plate. Is there any trace of something similar: In this case, the $43^\circ-0-43^\circ$ index would refer to the latitude. But then, what would the -43° mean ?

I do not believe in this explanation. I should better believe that the displacement of the whole dial from -43° to $+43^\circ$ would refer to an azimuthal correction. Is there a compass anywhere on the base plate ?

I have thought of a dial which would give the correction of time for any longitude, from 43° east of Lisbon (Mozambique ?) up to 43° west (Brazil). But why such an elaborate device for a very simple computation ? Still, one might explain the oval form of the dial in this way.

I am very interested in this riddle. If you happen to have a photo, or further informations, please let me know. I shall too.

yours very truly

H.MICHEL



From the Curator C. H. JOSTEN

MUSEUM OF THE HISTORY OF SCIENCE
OLD ASHMOLEAN BUILDING, BROAD STREET OXFORD

Telephone OXFORD 3997

October 28, 1954.

Dear Monsieur Michel,

1) Endeavour. I enclose a letter which I received today from the new Editor of ENDEAVOUR. I now propose to send the article to the Editor of DISCOVERY.

2) Gaspart. Very many thanks for your letter of the 26th.

a) The hours on the equatorial ring are anti-clockwise, as shown in your and my drawing, when looked at from above (which is the only reasonable way of looking at them).

b) The declination scale, of which I enclose a separate drawing, can be adjusted in two different ways:

i) It slides backwards and forwards.

ii) It rotates on the axis connecting the two marks for 6 o'clock.

It seems quite impossible to me that the hole at its lower end at one time contained a pin-gnomon. The hole is in the centre of a small oval plate which rotates on a threadless screw. This arrangement was obviously meant for the adjustment of the threadless screw to the direction of a sun-ray.

One side of the declination scale is inscribed "Meridional", the other "Septentrional".

c) The equatorial ring is fixed to the base with screws. There was certainly never any kind of adjustment for its inclination. The movable circular base itself is cast in such a way that the angle of inclination can only be 40° .

I have written to the Musee Lorrain at Nancy, but I have not yet had a reply. I shall have a photograph taken of our instrument and I hope to be able to send you one soon.

With kindest regards,

Monsieur Henri Michel,
54, Rue de Ten Bosch,
BRUSSELS, Belgium.

C. H. Josten

The other side is identical in design. It is inscribed "MERIDIONAL" and the scale is for the signs of ∞ , H , γ on the left; δ , x , $m\gamma$ on the right.

