

work of a certain class
y increased. The form
which the highest optical
the double reflection.
to the images from the
itself, at least in any
of about ten English

body the latest concep-
sign is founded on that
vard College Observ-
ms, of London. The
understood, largely due
al modification of the
scopes, instead of being
sive metal foundation,
bottoms of the circles.
ion and expansion of
temperature, are thus
ports rapidly assume
e instrument.

as of the thought and
(the Messrs. Repsold)
observatory. Even the
and its collimators is
is smaller than usual,
minished by building
are supported on cy-
of these three piers is
g a hollow cylinder of
thickness of the wall of
ility the different cyl-
at these arches do not
orting the instrument,
e of stability is thus
ached.

nce of the foundation.

The observatory building rests upon a stratum of gravel so clean and pure that in case of a flood in the Rhine the water permeates through the gravel to the base of the piers. It might be supposed that water thus penetrating the foundation would produce an injurious effect upon the stability, but such is not found to be the case. The fact that gravel forms the best foundation for an astronomical instrument has long been understood by those who have given attention to the subject. But I do not know of any other case in which the saturation of the gravel with water has been experienced.

I may mention in this connection that a solid bed-rock might be even better than gravel were it covered with so deep a layer of soft earth that it would not be affected by daily or annual changes of temperature. Experience has, however, shown that for want of these conditions being fulfilled a solid rock forms a very unsafe foundation. An interesting example of this is afforded by the observatory at Neuchatel, which is erected at the base of the Jura Mountains. The annual change in the pointing of the meridian circle is so great that Dr. Hirsch has recently published an investigation of the subject, showing that the mountain undergoes an annual change to an extent which has never before been remarked.

In order to obtain an accurate estimate of the stability of the Strassburg instrument, I requested the acting director, Dr. Schur, to allow me to transcribe the instrumental corrections during as long a period as practicable. The following are the values of the three instrumental constants which depend on the deviation of the axis of rotation from a true east and west line. Column *i* gives the level correction; *n*, the distance of the line of collimation east of the pole; *m* the deviation of the same line at its point of intersection with the equator. Of these constants *n* is more accurately determined than either of the others, and its stability affords a test of the stability of the instrument both in level and azimuth.

	<i>i</i> .	<i>n</i> .	<i>m</i> .
1892.	<i>s.</i>	<i>s.</i>	<i>s.</i>
June 17	.00	+.03	-.03
July 3	-.02	-.02	-.02
10	-.03	+.06	-.11
14		+.01	
15		+.11	
17	+.01	+.03	-.01
20	+.06	+.06	+.06
27	.00	+.11	-.12