Contents of Bulletin 105, January 2011 R. Hooijenga

photograph of the view from the window, using the shadow of available structures. Comparing actual shadows with the picture gives the time. – Hollander designed and made a sundial for a client who works with renewable energy. Besides time, the dial shows incoming sunlight as a percentage of maximum. – He also brought some spare New Year's cards, for those who missed it. The card shows the sky at one minute to midnight and fireworks.

"Suncatcher", Etten-Leur *T.J. de Vries* *10*

A large pole style terrace dial, unveiled 26 November 2010. Up on the gnomon, a human figure catches the sun with a solar panel. In the evening, the figure glows, using the 'collected light'. The dial shows standard time, longitude adjusted, without EOT correction.

Terrace dial, Budel-Dorplein *editors* *11*

Unveiled 16 October 2010, this is another pole style terrace dial. Volunteers designed and built it. Note the mosaic work. It is expected that this Bulletin will cover the dial in greater detail later.

Chris Doomernik *obit. notice* *11*

Member Chris Doomernik passed away at age 87.

Retrograde sundial, Hoofddorp *H.J. Hollander* *12*

The text of II Kings 20, or Isaiah 38, continues to inspire sundial makers because it describes a backward or retrograde motion of the shadow. This motion naturally occurs on analemmatic sundials for latitudes between the tropics, and for any dial derived from such a one by translation. It is also possible to design a *horizontal* analemmatic, showing retrogradation, for latitudes outside the tropics directly, by choosing a projection angle other than vertical. Hollander used a zenith angle of (90–53) degrees, as shown in the drawing. The sketches show the direct and retrograde motions. In this respect, the dial behaves as if it were an ordinary analemmatic for, and in, 15 degrees latitude.
The resulting dial is in the Bible Garden in Hoofddorp.

Hohenfeld polyhedron, reconstruction *F.W. Maes* *15*

This sundial, a gift to Prince (later Duke) Friedrich I from Ludwig von Hohenfeld, is a 26-faced semi-regular polyhedron consisting of squares and equilateral triangles, all sides measuring 70 mm. There are dials on all faces except the bottom one. All 25 gnomons are square to their respective surfaces.
The author, wanting to make a copy of the sundial, photographed it as well as could be managed and used a 2005 version of Paint Shop Pro processing software to remove perspective distortion from the images.
The Perspective Correction Tool will restore right angles, but will not always return a true square. However, it is an easy matter further to turn a rectangle into a square. All squares were normalized to 500 pixels width and height.
A trick enabled the author to use the tool on the triangle surfaces as well. He imagined a rectangle around the triangle (see Fig 3) and restored that to right

angles; afterwards, the width and height were made 500 and 433 pixels, respectively, which is the proper ratio for an equilateral triangle.
All surface images were individually corrected for brightness, contrast and colour balance, and sharpened. Finally they were joined to make up the “cut-outs”.

There are different kinds of hour lines, mostly indicating local time. Two faces show roman numerals, the others arabic. The four vertical ordinal faces have Babylonian and Italian hour lines. Zodiac signs are on the vertical cardinal faces, as well as on the top south and bottom north faces. The top and bottom east and west faces have day length curves. None of the eight triangles have date curves.

By measuring the relatively long equinox lines on the vertical east and west faces, the author determined the latitude for which the sundial was made. From the east face, the latitude works out to 48,2 ± 0,2 degrees. The west face puts it at 48,4 ± 0,2. Stuttgart latitude is 48,8 degrees, but perhaps the sundial was designed for Tübingen at 48,5 degrees, where both Hohenfeld and Prince Friedrich studied at the time.
The author checked all the dials using ZW2000 by Fer de Vries. See Fig 6 for an example. In general, the fit was good, except in the lower NE face. The error is obvious if one compares it with the corresponding NW face. This is odd, because Hohenfeld appears to have made good use of meridian symmetry elsewhere.
The gnomons on the lower SE and SW faces are incorrectly placed. And it seems that the gnomon lengths are not always right. Perhaps this error was introduced only recently, as the gnomons look quite new.

The author thanks Dr. Müsch for making the sundial available for photographing, and Klaus Eichholz for his inducing him to put this story on paper.
The cut-outs for the sundial may be downloaded from the author’s web site.

Hohenfeld polyhedron, history and symbolism *Eichholz/trans. Maes* *21*

This is a translation and adaptation of the paper by Klaus Eichholz which appeared in DGC Jahresschrift (49/2010, p169-). It is full of interesting facts, the sheer multitude of these however making a sensible précis impossible. Note however Fig 7, outlining the symmetric distribution of allegorical subjects: S=seasons, D=periods of the day, K=liberal arts, V=birds, W=arms/inscriptions.

Prague sundial walk *E. Daled* *28*

“A secret guarded too well” is that there are over 180 sundials in Prague – rather more than in either Paris or Amsterdam, not to mention Brussels. And it is not just Prague; there are about 130 sundials in Budejovice, and another 100 in Klatovy. In the Czech Republic, over 3000 sundials are listed, photographed, described and – in surprising numbers – restored.
Miroslav Broz outlined a sundial walk of about 7 km, from the railway station to the Stefanik observatory on Petrin Hill. Besides over twenty beautiful sundials, the walk takes some clocks and a meridian in its stride.
One of the highlights is the Clementinum, the former Jesuit St. Clement College, where there are 18 sundials, although not all are accessible.