

# THE PHOTOGRAPHIC NEWS.

VOL. XXIX. No. 1394.—May 22, 1885.

## CONTENTS.

	PAGE
Surveying by the Aid of Photography .....	321
Notes on a Day in the Neighbourhood of Sandbach. By John H. Day .....	322
Borland's Phototype Process.....	322
Patent Intelligence .....	323
Notes .....	328
A Tourist's Washing and Drying Rack. By T. G. Whaitte.....	329

	PAGE
On the Daguerreotype Process. By Thomas Galloway .....	329
City and Guilds of London Institute for the advancement of Technical Education.....	330
An Electrical Standard for Measuring Light .....	331
Proceedings of Societies .....	332
Talk in the Studio.....	336
Answers to Correspondents.....	336

### SURVEYING BY THE AID OF PHOTOGRAPHY.

THE German photographic press has been greatly taken up of late with the subject of "Photo-grammetrie," the matter having been brought prominently to the front by a discussion in the Prussian Parliament on the grant of 10,000 marks for photogrammetrical purposes.

A long report of the discussion is given, but we are bound to say that exceedingly little light is thrown on the subject by any of the "learned members" who took part in it. Indeed, it almost seems as if there were some confusion in the minds of certain of them as to what the subject at issue is.

"In our schools our youth are sorely harassed with instruction in various languages. Only lately have I heard that even girls, desiring to become teachers, must be able to speak French and English *accurately*. In short, in this direction their welfare is more than sufficiently looked after. But that language which comes to us from past time through our monuments—this speech remains untaught. There is no minister to give it his attention."

The Parliamentary eloquence here is doubtless of the highest quality, but the hearing on this subject in hand—surveying by photography—is somewhat oblique. On the whole, we gain little advantage from the perusal of the report of the discussion. It is far otherwise, however, concerning the communications which have been drawn from various individuals learned in the subject of photo-grammetry, and which appear in the German photographic periodicals.

The most important attempt to make an actual survey by photography seems to have taken place during the war of '70-71, when photographs of the fortifications of Strassburg were taken, and plans were constructed from these photographs. An attempt was, it appears, first made to get plans from photographs taken from only three different points of view. This attempt failed signally. Meantime, Strassburg capitulated; but the survey was continued, presumably merely for the sake of discovery whether or not useful results could be got. About twenty points of observation were taken, and from these points no less than 116 plates of 12 inches square were exposed, with the result that, after working on these for four or five months, a plan was produced which was so inaccurate as to be practically useless. The plates were wet, the camera was without a dark slide, and had to be taken bodily into the dark room after each exposure, when it was found to require a very thorough cleaning before it was ready to receive another plate; so that, altogether, the labour connected with the survey must have been something prodigious.

This is the gist of the report drawn up by those who had been engaged in the survey, and certainly the impression left by it is that for purposes of surveying, photo-

graphy is of little or no use. On reading, however, a communication by Herr Von F. Stolze, in the *Photographisches Wochenblatt*, the matter assumes a vastly different aspect. It appears that Herr Stolze was the inventor—or rather, perhaps, we should say the elaborator—of the particular system of surveying which was adopted; that he had been retained to supervise the construction of the apparatus, and that it was intended that he should have the direction of this survey. The apparatus was prepared with great haste; but at the last moment Herr Stolze withdrew from the expedition—because he had no taste for going under fire, his enemies said; because he could not make satisfactory terms with the military authorities, he most conclusively proves—and the survey was conducted by those who were new to the work, and who had even confessed their ignorance of the correct method of procedure. There is, therefore, at any rate, no need to assume, from the report, that photo-grammetry is in itself useless. Herr Stolze, in his communication—which is, in fact, a defence (and a very able one) of his own conduct throughout the matter—and Dr. H. W. Vogel, in an article on the subject of photo-grammetry, both bring forward many points of interest in connection with the particular subject, and also with photographic optics in general.

Before placing a few of these points before our readers, it may perhaps be advisable to say a few words on the subject of the use of the camera in survey work. To describe completely and in detail the method whereby a plan—that is to say, a map—of a portion of country may be made from photographs taken from two or more different points of view, would occupy more space than we can spare; but the general principles on which the survey is carried out may be very briefly indicated.

Our best method will be to imagine an actual case, the simplest possible. We shall suppose that it is desired to make a plan or map of a garden enclosed with straight walls, and having straight paths and beds bounded by straight lines. We shall farther suppose that these are outside the garden at such a height as to overlook it, two points of vantage at a considerable distance from each other, at such a distance, in fact, that two distinctly different views of the garden can be got. A photograph is now taken from each of these points, the plate being kept in a vertical plane, and means being adopted to mark on it a vertical and a horizontal line, each passing through the axis of the lens. The distance between the two points of view is accurately measured in the usual manner with a chain, and the line thereby got forms the base line from which the plan is drawn. That is to say, the line is drawn to whatever scale is desired on the plan, when, by means that will be readily comprehended by all who have any knowledge of surveying, the points forming the angle of each wall, the end of each walk, and the corner of each bed may be