

but I think I have fully satisfied the interest of the JOURNAL readers.

To sum up, therefore, and to conclude : There were many photographs at the exhibition that could scarcely be excelled, and as works of art as perfect as could be produced by means of photography. These were not awarded the prizes, except in a very few instances. There were also those on exhibition that were only mediocre, and some that were not the "likeness of anything in the heavens above, nor the earth beneath nor the waters under the earth."

NEW YORK, April 30th., 1894.

DEMONSTRATION OF THE CARBON PROCESS.

GIVEN BY MESSRS. W. K. BURTON AND
M. KONDO.

Before the Photo Society of Japan:

The following is a brief description of Messrs. Burton and Kondos' interesting demonstration :—

The name "carbon process" had been given, because all the earlier efforts to work out a permanent process were directed towards the use of lamp-black, which is nearly pure carbon—one of the most permanent bodies in nature—and in the first successful pictures made by the process, lamp-black only was used. The "Pigment Process" was, however, a better term to use, for one of the beauties of the process was that any pigment that did not react with gelatine or chromic acid salts could be used, and if the pigment were permanent, so would be the resulting pictures. The process depended on the fact that, if gelatine were treated with any of certain salts of chromic acid, it became sensitive to light, in the sense that the action of light rendered it insoluble even in hot water,

whereas, not acted on by light, it retained its solubility. The material principally used was what is technically known as "carbon tissue." This is merely paper coated thickly with gelatine and some pigment. The tissue used was by the Autotype Company, of London, which firm had the reputation of issuing no tissue with pigments other than permanent. Five different colors were shown, namely "engraving black," "photographic brown," "photographic purple," "sea green," and "Red Chalk" or "Bartolozzi red." The tissue is sensitized by dipping it for a minute or two in a chromate solution. A simple solution of bichromate of potassium, of a strength of 2 to 3 per cent. is commonly used, but the demonstrators preferred to add ammonia to this solution, till the bright orange color changed to a pale yellow. This change of color indicated the conversion of the bichromate of potassium into a double chromate of potassium and ammonium. This procedure had first been recommended by Dr. Eider, and it was the opinion of many carbon workers, amongst others the demonstrators, that tissue sensitized with this double salt, kept better than that sensitized with bichromate of potassium. The tissue is dried without artificial heat. A great deal depends on the time taken for drying. The best results are obtained when this time is from 4 to 8 hours. The printing is done in the usual way, the tissue being of about the same sensitiveness as sensitized albuminized paper. There is no visible image, and an actinometer is commonly used for timing the exposure. The demonstrators were not possessed of an actinometer, and merely placed one or more small selected negatives, with a strip of sensitized albuminized paper under each, in printing