beautiful in what might be man. These copies, however have a limited value. The light of the sun, even in a cloudless sky, is ever varying, and the breadth and direction of the shadows are changing from hour to hour. The portion of the drawing executed in the morning will not harmonize with what is delineated at noon or in the evening; and hence the most skilful representation of a piece of sculpture cannot possibly exhibit those lights and shadows which can give even an approximate idea of figures in relief. The binocular photographs, on the other hand, when rightly taken, give all the shadows of an instant of time, and when combined in the stereoscope, reproduce the statue in relief in all its aspects, and with all its parts as exhibited under the same beam of light."

Importance to the Engineer.

"To the engineer and the machinist, photography and the stereoscope are of inestimable value. The difficulty of drawing complex machinery is often insurmountable; and even when the drawings are well executed, it is not easy to study from them the construction and mode of operation of the machine; but the union of one or two binocular pictures of it, judiciously taken, will in many cases remove the difficulty both of drawing and understanding it. In the erection of public buildings, hourly and daily photograph have shown to the absent superintendent the progress of his work."

Importance in Microscopical Research.

"Photography has also been applied to the miscroscope, in reducing for special purposes, large objects into such small dimentions that they are invisible to the naked eye, and can be seen only in the microscope. Mr. Shadbolt seems to have been the first (March 1854) who executed these small photographs, by making an achromatic object-glass 1 or 1½ inch focus the lens of a camera, and using a *structureless collodion*. His photographs of single persons varied from the $\frac{1}{20}$th to the $\frac{1}{40}$th of an inch, and could bear a magnifying power of a hundred times. The finest microscopic photographs which we have seen are those of Mr. Dancer of Manchester, consisting of single portraits, monumental inscriptions, and family and other groups.

One of them, a family group, contains *seven* full-length portraits, occupying a space the size of a pin's head, so that ten thousand single portraits could be included in a square inch! In 1857, the writer of this article, who took several of these to Rome, proposed to M. Castellani, the celebrated jeweller there, to have them placed in the centre of a brooch, a locket, or a ring, and magnified by the single or the central jewel, cut into lens sufficient to exhibit the group distinctly when looked into or held up to the light. It was also suggested to a distinguished diplomatist, that copies of dispatches might be transmitted by post, of words placed in spaces not larger than a full stop or a small blot of ink."

"Among the wonderful applications of photography, we cannot avoid mentioning one by M. Crusco, who in May 1859, presented to the Academy of Sciences a photograph of a morbid alteration in the choroid coat of the human eye, as seen in the ophthalmoscope, to which he has the name of *partial* atrophy. The photograph shows that a large portion of the choroid wants both the vessels and the pigment, and the sclerotic coat is seen, through it. M. Cusco has obtained many other photographs of intra-ocular lesions, both in the living and the dead subject."

Defect of Photography.

"The greatest defect of photography, as an art is, that its pictures are more perishable than the material which bears them. Many of them, indeed, have disappeared, and left the paper on which they were drawn in all its original whiteness. This fading of photographs has been ascribed, and we believe justly, to the imperfect removal by hot or cold water of the hyposulphite of soda used in fixing them; and for a long time photographers have endeavoured to get rid of this injurious salt. It is fortunate, however, for the credit of the art, that a method of reviving faded photographs has been discovered, and the following process has been published by MM. Davanne and Girard:—'Place the print in a solution of chloride of gold, and leave it in this bath for three or four hours if shielded from the light, or for a few minutes if under the influence of the solar rays. In other respects follow the ordinary course, pass through hyposulphite of soda, and *the print, however faded*, will be revived.'"

Cartes-de-Visite.

"Among the interesting applications of photography, we must mention one which we believe was first introduced at Nice by M. Ferrier in 1857. The Duke of Parma having had his full length portrait placed upon his visiting cards, some gentlemen imitated his example, which was soon afterwards followed in Paris and in London. In order to produce these *carte-de-visite* portraits quicker, a Parisian artist is said to have fitted up a camera with 24 lenses to take 24 negatives upon the same plate. These pictures will represent the party as seen from 24 different points of view. All *carte-de visite* portraits should be taken with binocular camera, and so as to show different distances, in order that those who chose it might obtain pairs for their stereoscopes. These portraits are, beyond doubt superior to all others, especially if taken, as they should be, at the distance of 20 or 30 feet, in which case they may be enlarged into a life size by the camera of Woodward, or other analogons instruments."

"From the history which we have now given, in this and in a previous article, of photography, and its processes and applications, the reader cannot fail to see that, notwithstanding the beauty of the Daguerrotype, the *Talbotype*, or photograph on paper, or its equivalents, is the true type of the photogenic art. The public have not yet suitably acknowledged the obligations which they owe to Mr. Talbot, who, in order to perfect the processes of his invention, has drawn liberally upon his fortune, and foregone for a while, a reputation of no ordinary kind, which his mathematical, physical, and literary accomplishments could not fail to have secured him. A jury of his country, indeed (the highest arbitrator of scientific contentions, in a court where Mammon presides), have decided that he is the inventor of the Talbotype; and we trust the day is not distant when the nation shall not grudge some honourable recognition of labours which