

## The Photographic News, October 29, 1880.

## PHOTOGRAPHY IN AND OUT OF THE STUDIO.

## PORTRAITURE IN THE EXHIBITION—GELATINE PLATES AND STUDIO WORK—THE PHOTOPHONE.

*Portraiture in the Exhibition.*—Despite the quantity of excellent gelatine work on the walls of the Exhibition, we are inclined to think that the result as a whole is somewhat disappointing. Granted that for out-door work the convenience and rapidity of the process place it ahead of collodion, yet the latter in the studio remains unapproached. By far the greater number of gelatine pictures in the Exhibition are landscapes, but charming as many of these are, they do not show to the eye the superiority which one might have been led to anticipate from the wonders which the various manufacturers of gelatine plates have asserted that gelatine was capable of producing. Granted that, when all the circumstances are considered, photographs of express trains, steam-launches, or bathers in the act of diving are very extraordinary; but after the first sensation of surprise has passed away, they excite less admiration than the picture which simply relies on good taste and knowledge of artistic effect. Indeed, the latter will be the more lasting. But with the transient phases of human expression the case is somewhat different. All things being equal, the most artistically-conceived portrait must of course bear away the prize. But where a picture perfect in artistic arrangement, but cold and lifeless in expression, is compared with another not, perhaps, showing so much skill in art, but abounding in the aspect of nature, will the same decision be arrived at? We fancy not. Mechanically the collodion process in the studio is perfect—provided sufficient exposure can be given. But here, of course, is the drawback. In ninety-nine portraits out of a hundred we do not get the true expression, owing to the length of time the model has to sit, and it is only when the hundredth, in which by chance nature itself has been secured, is obtained, that we see the wondrous possibilities of which photography is capable. Now, with the gelatine process, we have by enthusiastic workers been promised all this: but what evidence is there of it in the Exhibition? We are compelled to say very little. Rarely has there been a collection of photographs shown in which pure portraits have formed so small a part. Most photographers will remember the startling effect which Adam Salomon's pictures produced when first exhibited in England. It is not too much to say that these pictures gave an impetus to photographic portraiture for which English photographers have had much reason to be grateful. It must be remembered that the value of a photographic exhibition is not confined to the benefit which one photographer derives from seeing the work which another is doing, but must be considered to include also the knowledge of the capability of the art imparted to the general public. Now, we will engage to say, that not one in half-a-dozen of the non-photographic community will be impressed by specimens whose chief merit depends upon mere rapidity, simply because they do not understand or appreciate the difficulties under which the pictures have been secured. But they do understand the representation of true and natural expression in the human countenance; and had any photographer taken advantage of the gelatine process, and devoted himself to this study alone, the exhibition of such specimens would have awakened fresh interest on the part of the public, of which the profession sadly stands in need.

*Gelatine Plates and Studio Work.*—We should be disposed, in connection with the above remarks, to attribute the absence of studio work in gelatine to the somewhat unfair treatment which the process has received from portrait photographers as a rule. A man shows you a very ordinary-looking photograph, and says, "There, that was taken in a November fog, on a gelatine plate;" or, "The light was so bad it was impossible to use collodion; so I

just slipped in a gelatine plate and got a capital picture.' This kind of thing, we believe, represents the only experience which many portraitists have of gelatine, and we would ask whether it is doing justice to a process to use it only when collodion is unworkable? If gelatine plates are so sensitive as they are represented to be, why is it they are not used more when the light is in normal condition, and so give them a fair chance? Of course it may be said that it is only during the past twelve months that gelatine has come into general use, and that much has had to be learnt and unlearned; but to use it only under the most unfavourable circumstances is scarcely the way to arrive at a knowledge of what it is capable.

*The Photophone.*—The scientific world of Paris has, during the last few days, been actively discussing the merits of Professor Graham Bell's most recent discovery—the photophone. The principle of the photophone has already been described in the PHOTOGRAPHIC NEWS, and may be briefly said to be a means of which sounds can be conveyed to a distance of the intervention of a beam of light. In the experiments made in Paris, the light from a Gramme machine and a Dubouché lamp was made to fall upon a small mirror, whence it was reflected into the mouth of a parabolic silvered reflector. In the focus of the reflector was placed a receiver, which really acts as a microphone. In appearance, the receiver is like a small electric coil, about five inches long and nearly two inches in diameter, and is composed of a number of thin discs of tin and mica placed alternately, the whole being pressed together by metal ends, a small tin-rod connecting them. The discs of mica are of less diameter than those of tin, this deficiency of diameter being made up by means of a thin layer of selenium, with which these cavities are filled up. Consequently, it is only through the selenium that the tin plates have any electric communication with each other. To render this current a "quantity" one, all the even discs of tin are connected together, as is likewise the case with the odd ones. A contact screw at each end of the apparatus allows this selenium receiver to be placed in an electric circuit. In the experiments in question a battery of fifteen Leclanché cells was generally used. The ordinary telephonic receivers were placed some forty yards away; several rooms intervening. The small mirror upon which the beam of light is, in the first instance, allowed to fall, is so very thin as to be flexible, and susceptible of alteration of convexity under the influence of the vibrations caused by different sounds. Into the back of the mirror-case is fixed a flexible speaking tube, and by this means these vibratory differences make themselves felt. This mirror, in the present instance, consists of a very thin glass disc, about two inches in diameter, and not more than than 1-200th of an inch in thickness. The surface of this small mirror becomes convex and concave under the effect of the different sound vibrations. These variations in its form act upon the rays of light reflected from its surface, causing them to disperse or to concentrate, so that their intensity, when by means of the parabolic reflector they fall upon the selenium receiver, is always varying. These variations, in direct response to those of the sound vibrations, are transmitted telephonically to the ordinary receivers at the other end, where the sounds are reproduced. The experiments were, so far, successful. Certain sounds and words, especially when containing gutturals, were heard very distinctly. It may be remembered that, some years ago, a prize of 50,000 francs was set aside by the French Government, to be awarded to investigators in electrical science. The first time the prize was awarded was to Ruhmkoff, for his induction coil. The *Commission Ministérielle*, who had the disposal of this prize last year, decided that no one was more worthy of it than Professor Bell; and the advance which the photophone indicates, shows that the prize was worthily disposed. The apparatus was exhibited before the French Academy of Sciences, by the Secretary of the Academy, M. Dumas, and described by M. Antoine Bréguet, as Professor Bell does not speak French. In the course of his