

Photographs and Facial Expressions

Notes on Charles Darwin's use of photographs for The Expressions of the Emotions in Man and Animals, 1872

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In 1872, Charles Darwin published his book on The Expression of the Emotions in Man and Animals. This was thirteen years after his revolutionary The Origin of Species and one year after the Descent of Man. By this time, Darwin was a famous man and his new publication was a bestseller from the first day of publication when over 5,000 copies were sold.

The topic of emotional expression was not obscure. J. Parsons, in his paper in the Appendix to the Philosophical Transactions (1) of 1746 - 125 years earlier - gives a list of 41 authors who had written an expression to that date. Of particular interest, and importance, in this list is the famous "Conferences" of the painter Le Brun. (2) Many more publications on the same theme had appeared in the preceding years of the 19th century, notably by Sir C. Bell (3), G. Lavater (4), and Dr. G. B. Duchenne (5), who is of particular interest in this brief study, as will be seen later. In addition, the subject of emotional expression was not merely the prerogative of the painters, physiologists and other academics. It was intrinsically popular with the Victorian public, because it was closely allied to their fascination with physiognomy, the recognition and reading of a person's character through the study of the permanent form of their features. Pertinent to this brief article is the fact that photography and physiognomy were closely allied; it was quite common for young ladies to take a photograph of their prospective husbands for a character "reading" prior to the wedding.

Numerous stories of the entertaining complications that ensued from such acts are encountered in the photographic press of the 19th century.

In spite of its popular appeal, The Expressions of the Emotions in Man and Animals had little observable influence on the scientific community for the next 90 years. It is a tribute to Darwin that the recent resurgence of interest in the field has largely vindicated his findings and claims; a large part of his theoretical explanations and forecasts are substantiated by current knowledge. Since it is not the purpose of this paper to analyse Darwin's research, I would merely refer

the reader to Darwin and Facial Expression: A Century of Research in Review, by Paul Ekman of the University of California at San Francisco. (6)

The Expression of the Emotions in Man and Animals is an important reference work today, with relevance across disciplines - psychology, anthropology, zoology, ethnology, behavioral sciences, etc. - it is also a fascinating and important work in the field of photographic history.

One unique aspect of the book is the inclusion of seven heliotype plates from photographs. As far as is known, this is the only book by Darwin to include direct reproductions of photographs. Darwin himself acknowledged the importance of the photographic content by stating under his list of illustrations:

N.B. - Several of the figures in these seven Heliotype Plates (each of which contains several images) have been reproduced from photographs... they are faithful copies, and are much superior for my purpose to any drawing, however carefully executed." (7)

One fact must be stressed: such photographic reproductions were extremely rare in 1872. At that time a quick, reliable and cheap means of reproducing photographs alongside the text-matter or letterpress did not exist. There were two main methods of illustrating books with photographs.

1. The photograph was copied, by a skilled craftsman, onto a woodblock and the resultant engraving reproduced simultaneously with the text. This was relatively inexpensive and was the most common method of illustration by far during the 19th century. Darwin includes several wood engravings in the text pages of The Expressions... - both from drawings and from photographs. The disadvantage of this process was that the photographic "believability" was unavoidably lost.
2. The text was printed separately and blank pages left for the photographic illustrations. A photographic "publisher" would make many original prints from each negative and these prints would be hand-pasted into the pages. It must be evident that this was a laborious and expensive process, and only used for limited edition books.

The heliotype process, employed in Darwin's book, was one of the easiest methods attempted in order to retain the authenticity of the photographic image in large runs, without resorting to the cost of hand-mounting hundreds of original

prints. Without a detailed explanation of the heliotype process, it should be stated that it is almost identical, technically, to the collotype process, widely used for photomechanical reproduction up to the 1930s, and reintroduced in recent years for specific tasks. The heliotype reproductions are not of the highest quality, as Darwin himself pointed out, "nevertheless, they are faithful copies, and...much superior...to any drawing."

Many of the photographs reproduced in the book were taken specially for Darwin by Oscar G. Rejlander, one of the key figures in 19th century photography. Rejlander was a Swede who became a painter in Rome before marrying an English woman and settling in her hometown of Wolverhampton, England, where he began his photographic work. By 1872 he had gained an enviable reputation as a portraitist, genre worker and photographic artist. He was best known, however, for his infamous and controversial picture entitled "The Two Ways of Life", made for the Manchester Fine Arts exhibition of 1857. It is a complex composite photograph, made from over 30 separate negatives, in order to prove that photographers could compete with academic Victorian painters in the production of allegorical images. Time and again in his text and introduction, Darwin mentions his close collaboration with Rejlander. For example:

...I must have the pleasure of expressing my obligations to Mr. Rejlander for the trouble which he has taken in photographing for me various expressions and gestures. (8)

The best photographs in my collection are by Mr. Rejlander... (9)

The history of figure 5 is rather curious: I saw the photograph in a shop-window, and took it to Mr. Rejlander for the sake of finding out by whom it had been made; remarking to him how pathetic the expression was. He answered, "I made it, and it was likely to be pathetic, for the boy in a few minutes burst out crying." (10)

(Uncovered canine on one side - "I scorn the imputation"). Mr. Rejlander, without my having made any allusion to the subject, asked me whether I had ever noticed this expression, as he had been much struck by it. He has photographed for me...a lady, who sometimes unintentionally displays the canine on one side, and can do so voluntarily with unusual distinctness. (11)

The accompanying photograph...by Mr. Rejlander, shows this form of

disdain. It represents a young lady, who is supposed to be tearing up the photograph of a despised lover. (12)

Oscar Rejlander was not content with photographing other people at Darwin's suggestion; he was rather proud of his own histrionic abilities and made several self-portraits illustrating various expressions, including disgust, defiance, surprise, shrugging and helplessness.

I presume Rejlander's Swedish ancestry and sojourn in Italy befitted him for these roles since Darwin asserts that "Mr. Rejlander has successfully acted the gesture...Englishmen ...are much less demonstrative than the men of most other European nations." (13)

Contrary to the idea expressed in most books and articles that mention this volume, not all the photographs for The Expressions... were by Oscar G. Rejlander. Darwin also collected and published existing images by various other experimenters and photographers, notably Dr. G-B Duchenne.

In 1862, ten years previous to Darwin's work, Duchenne had published his Mecanisme de la Physionomie 'Humaine', (14) in which he analysed the movements of facial muscles. Darwin remarked: "He has generously permitted me to copy as many of photographs as I desired." (15) These "magnificent" photographs were taken in an ingenious, if somewhat bizarre, manner. Duchenne took one of his patients, an old man with a partially paralysed face, and applied electric shocks to particular areas. The muscles contracted and provided a particular expression as long as the current was applied. This was an ingenious if somewhat "inhumaine", experiment since it allowed Duchenne to isolate individual muscles which caused facial expressions, and allowed an otherwise fleeting expression to "congeal" under the electricity for a long enough time to record photographically on the slow plates then being used. Hand cameras, and snapshots of fractions of a second, were not available in 1872.

Two other photographers are represented in The Expressions... : a Herr Kindermann of Hamburg, "For the loan of some excellent negatives of crying infants" (16) and Dr. G. C. Wallich, "For a charming one of a smiling girl" (17).

Very little is known about Kindermann. He seems to have had a flourishing carte-de-visite studio in Hamburg, Germany specialising in the photography of babies and infants. Dr. George Charles Wallich was a much more intriguing figure. He became a licentiate of the Royal College of Surgeons of Edinburgh in

1837, and served as a field-surgeon in India for many years. In 1869, he joined a team surveying the Atlantic bottom and for the next 20 years continued to study marine biology. He was awarded the gold medal of the Linnean Society for his researches and wrote several books on marine life and geology. Between 1864 and 1872, he was an ardent photographer, renowned for his portraits which were "recognised as models of artistic excellence combined with scientific truthfulness." (18) Two books of his photographic portraits were published at the end of his eight years' association with the medium. (19)

In order to complete this brief survey of Darwin's use of photography in Expressions..., it should be stated that several of the wood-engravings were made by transferring the drawing to the wood photographically. The wood-engraver, a Mr. Cooper, then only had to follow the transferred lines. "By this means," said Darwin, "almost complete fidelity is ensured." That is, complete fidelity to the drawing, not to reality. It is by contrast with these wood-engravings that the power of the photographic image, even a heliotype, is revealed.

Charles Darwin understood the value of photography, particularly in its unique ability to provide authentic documents. This supposition is based not only on his inclusion of photomechanical reproductions in The Expressions..., but also in the number of photographs which he collected for study and did not reproduce.

The Darwin Archives, now housed at the University Library, Cambridge, contain nearly 200 original photographs which he had collected for the Expressions project. By far the largest number from a simple identifiable source (73 prints) are by Oscar Rejlander, whom we have already discussed. The second largest group (32 prints) comprise portraits of the insane from The West Riding Asylum at Wakefield. Although none of these photographs appear in the book, they were obviously important sources of information for Darwin. He wrote:

...it occurred to me that the insane ought to be studied, as they are liable to be the strongest passions, and give uncontrolled vent to them. (20)

He was introduced to Dr. J. Crichton Browne, who was in charge of this "immense" asylum, who sent Darwin a set of unusual photographs. The photographer is, as yet, unidentified. Although it is possible that several authors are represented, they bear the stamp of one photographic style. It is possible that they were made by the eminent photographer, Dr. Hugh Diamond, but that has not been established.

A large number of the remaining photographs in the collection are also unidentified, although several interesting photographers are represented, including: John Burton, Francesco Bopp, G. and J. Hall, Giorgio Brogi, Elliott and Fry, and F. and D. Brockman. Perhaps the single most intriguing print is inscribed: "By the Reverend C. L. Dodgson..." Dodgson was better known, of course, as Lewis Carroll who, apart from his literary activities, was a University don and an avid photographer of little girls. The collection also contains a number of photographs which are reproductions of portrait paintings. It will be remembered that Le Brun, the painter, wrote one of the earliest treatises on the subject of facial expressions; Darwin "hoped to derive much aid from the great masters in Painting and Sculpture, who are such close observers. Accordingly, I have looked at photographs and engravings of many well-known works; but, with a few exceptions, have not thus profited. The reason, no doubt, is that in works of art, beauty is the chief object; and strongly contracted facial muscles destroy beauty." (21)

Very few, if any, of the photographs collected by Darwin have been published. I hope that this brief introduction to photography and Expressions of the Emotions in Man and Animals has indicated a possible line of future research. It is also hoped that this brief encounter with the role of photography in the 19th century will indicate a vast, virgin area awaiting scholarly inquiry. Photography is an unexplored territory, awaiting both pioneers and settlers.

References:

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5. Mécanisme de la Physionomie Humaine... G. B. Duchenne. 1862.
6. Darwin and Facial Expression: a century of research in review. Paul Ekman. 1973. Academic Press, New York and London.
7. Expressions of the Emotions in Man and Animals. Charles Darwin. 1872. p. vi.
8. *Ibid.* p. 23.
9. *Ibid.* p.148.

10. Ibid. pp. 182-183.
11. Ibid. p. 250.
12. Ibid. p. 255.
13. Ibid. p. 265.
14. Mecanisme de la Physionomie Humaine. Dr. G. B. Duchenne. 2 editions - folio and octavo. 1862. Illustrations are from the 12th edition of 1876.
15. Expressions of the Emotions in Man and Animals. Charles Darwin. 1872. p. 5.
16. Ibid. p. 23.
17. Ibid. pp. 23-24.
18. The British Journal of Photography, 3 January 1873, p. 8.
19. Eminent Men of the Day. Photographed by G.C.W. London. 1870. Men of the Time. Photographed by G.C.W. London. 1871.
20. Expressions of the Emotions in Man and Animals. Charles Darwin. 1872. p. 13.
21. Ibid. p.15.

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