

Charles Darwin, Photography and Everything Else

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If there is a more pleasant way of spending a few hours (alone) than browsing in an old book shop then the alternative has not yet occurred to me. And since practically every town and village in England boasts at least one such establishment it becomes no secret where I spend most of my time on my return visits to this country. I have even managed to convince myself that I am not being totally self-indulgent; I am pursuing photographic research. And it is true that many of the volumes pulled off the shelves have begun trails of inquiry leading deeper into the history of the medium and wider into photography's interrelationships with other disciplines. Each book dropped into the placid pond of the mind sends out ever-widening ripples which lap at the edges of various fields. I would like to show you how it works.

On a recent visit to a bookshop near my home town I found a copy of The Expression of the Emotions in Man and Animals by Charles Darwin, published in 1872. All I knew about this book was what I had read in Beaumont Newhall's textbook: "Rejlander pioneered in instantaneous photography with a series of photographs showing the most fleeting facial expression for Charles Darwin's Expressions of the Emotions . . ." (1) No other information on this publication, or its photographs, was offered. So I began a little research of my own. It is by no means complete and I do not offer the following information as the definitive research on the book. But I do hope that these beginnings will indicate how fascinating this work can be and the directions in which the clues can point.

From various biographical indices of 19th century personalities I discovered that Darwin published his book on expressions 13 years after his revolutionary The Origin of Species and one year after the Descent of Man. By this time Darwin was a famous man, a fact which did not diminish my surprise to learn that his new publication was a bestseller. Over 5,000 copies were sold *on the first day!*

The popularity of the book was due not only to the fame of its author but also to the subject of facial and bodily expressions. This subject had evidently fascinated brilliant minds for several hundred years. Charles Darwin was continuing a long tradition of

scholarly inquiry. This fact was particularly impressed on my mind by an Appendix to the Philosophical Transactions (2) where J. Parsons lists 41 authors who had written on the subject of expression up to 1746 - 125 years before Darwin's contribution. Of particular interest, and importance, in this list is the famous "Conferences" of the painter Le Brun (3). Many more publications on the same theme had appeared in the preceding years of the 19th century, notably by Sir C. Bell (4), G. Lavater (5), and Dr. G. B. Duchenne (6), whose name was of particular interest to me for reasons that will become apparent a little later.

Yet even such earnest scholarly interest in the subject of expressions could not have accounted for the instant popularity of Darwin's book. It must, for some reason, have appealed to the general public as well as to his scientific peers. The reason was not hard to find.

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. And photography was extremely useful to physiognomy. 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. This relationship between photography and physiognomy, two prime passions of the Victorians, would make a wonderful research project. If there are any students out there looking for a thesis topic, I offer the suggestion *gratis*.

The next line of inquiry led me to the question: if Darwin's book had such a vast circulation, what was its impact on future research in the field of facial and body expressions? From the small amount of reading that I have completed in this area, the answer seems to be: not much. 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. Immediately following Darwin's book the subject seems to have waned in interest. I have noticed, however, a sudden renewal of scholarly papers in the field over the past few years. From these articles it is evident that the recent resurgence of interest in expressions and gestures has largely vindicated Darwin's findings and claims; a large part of his theoretical explanations and forecasts are substantiated by current knowledge. What is not so clear is the part that photography is now playing in this field. This, too, would be a fascinating path to follow for anyone interested in the subject. Since Darwin's day, the ease with which fleeting expressions and fast-moving gestures can be frozen photographically has improved dramatically; I

cannot believe that contemporary researchers are unaware of this fact. Their images could provide a photo-directory of expressions and gestures which would be as fascinating visually as it would be informative.

For anyone interested in pursuing this idea I would suggest beginning with Darwin and Facial Expression: A Century of Research in Review by Paul Ekman (7), which is a particularly good survey of the subject.

The Expression of the Emotions in Man and Animals is an important reference work today, with relevancies across disciplines - psychology, anthropology, zoology, ethnology, behavioral sciences, etc - and 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 I know, 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. (8)

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 - or woodburytypes - 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.

Here again is an important research topic - the use of photographic illustrations in 19th

century books. I have only mentioned the two most common solutions to the problems; there were scores of other processes and techniques aimed at retaining the fidelity of the photograph at a commercially acceptable cost.

The Heliochrome process, employed in Darwin's book, was one of the earliest 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. The heliochrome process 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 heliochrome reproductions are not of the highest quality, as Darwin himself points out, "nevertheless, they are faithful copies, and. . . much superior. . . to any drawing. "

Another path of research leads directly from the book to the photographers whose work was used as illustrations. For me, this was the most fascinating part of the detective work. Beaumont Newhall, as we have already seen, only mentions the illustrations by Rejlander. And it is true that many of the photographs reproduced in the book were taken specifically 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. " (9)

"The best photographs in my collection are by Mr. Rejlander. . . " (10)

"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. "(11)

(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. (12)

"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. " (13)

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. (His wife also appears in one photograph.)

I presume Rejlander's Swedish ancestry and sojourn in Italy befitted him for these roles because Darwin asserts that "Mr. Rejlander has successfully acted the gesture. . . Englishmen are much less demonstrative than the men of most other European nations, and they shrug their shoulders far less frequently and energetically than Frenchmen or Italians do. " (14)

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' (15), in which he analyzed the movements of facial muscles. Darwin remarked: "He has generously permitted me to copy as many of his photographs as I desired. " (16) These "magnificent" photographs were taken in an ingenious, if somewhat bizarre, manner. Duchenne took one of his patients, an old man with a partially paralyzed 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 of the Emotions in Man and Animals: a Herr Kindermann of Hamburg, "For the loan of some excellent negatives

of crying infants" (17) and Dr. G. C. Wallich, "For a charming one of a smiling girl. " (18)

I could find very little about Kindermann. He seems to have had a flourishing carte-de-visite studio in Hamburg, Germany, specializing in the photography of babies and infants. On the other hand, from the information gleaned so far, Dr. George Charles Wallich seems an 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 "recognized as models of artistic excellence combined with scientific truthfulness. (19) Two books of his photographic portraits were published at the end of his eight years' association with the medium. (20)

All these photographers would repay further study and research, especially George Wallich, who promises to emerge as a fascinating man and important photographer.

While on the subject of photography and illustrations for Darwin's book, I was interested to note 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 is revealed. Another topic of fruitful research would be the transition from wood-engraving to the halftone photomechanical processes which replaced the former handcraft with new technology at the turn of the century. The social, as well as photographic, ramifications of this transition must have been immense.

I should mention one other facet of my own tentative research which led from this one book. I reasoned that if Darwin understood the value of photography, particularly in its unique ability to provide authentic documents, then it seems reasonable that he would have collected photographic images in addition to those reproduced in The Expressions of the Emotions in Man and Animals. Presumably he would have studied more photographs than he could have used in one publication. So I paid a visit to The Darwin Archives, now housed at the University Library, Cambridge. Sure enough the archive contains nearly 200 original photographs which were collected for the Expressions project. By far the largest number from a single identifiable source,⁷³ are by Oscar Rejlander, whom we have already discussed. The second largest group,³² 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. " (21)

He was introduced to Dr. J. Crichton Browne, who was in charge of an "immense" asylum, and who sent Darwin a set of unusual photographs. The photographer is unidentified. Although it is possible that several authors are represented, I think 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. Another possible research project.

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 and portraits of famous Victorians. 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. (22)

Very few, if any, of the photographs collected by Darwin have been published, as far as I know.

I hope it is evident from these short remarks that a single book can spark an interest which quickly becomes a conflagration, consuming time and attention in a most agreeable way. My own reading, as a direct result of finding this one volume, have covered such diverse topics as: 17th and 18th century articles on facial expressions; biographies of Darwin; the application of electric shocks to mental patients; 19th century portrait painters; the Victorians' passion for physiognomy; psychology and ethnology; techniques of book illustrations; biographical research; anatomy and philosophy. I also had a pleasant trip to Cambridge.

I can now look up at the shelf on which Darwin's book is sitting. It does not seem possible that such an insignificant, battered, dusty little green book could have started so much, led to so many interesting ideas and places, and yet impress upon me the full knowledge that I could spend the rest of my life pursuing its ever-widening ripples and never know where they all might lead. That is the magic of the book, any book.

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First published in *The British Journal of Photography*, 7 November 1980.