



The Correspondence between Mantegazza and Darwin

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INTRODUZIONE

Paolo Mantegazza is remembered as one of the earliest disseminator and most enthusiastic defenders of Darwinism in Italy. In 1869 he moved from Pavia to Florence, at that time the capital of the new born Italian state. Mantegazza had a clear project in mind. Indeed, in that same year, he established the first chair of Anthropology and the National Museum of Anthropology and Ethnology.

In 1871 he founded the scientific Italian Society of Anthropology and Ethnology and the scientific journal *Archivio per l'Anthropologia e la Etnologia*. Both were intimately connected to the museum and are still active today. Darwin was soon elected together with T.H. Huxley, as honorary members of the Society of Anthropology and Ethnology of Florence.

The correspondence between Mantegazza and Darwin began in 1868 with a letter from Mantegazza to Darwin. Mantegazza's admiration for Darwin shine throughout this and all other letters, even if his correspondence included discussions and polite scientific disagreements on some aspects of Darwinian theory.

Today, we have 4 surviving, hand written letters in French by Mantegazza to Darwin. They are dated: 19 March 1868 (from Pavia), and 10 June 1871, 4 May 1872, 23 December 1872 (from Florence) and are all conserved at

the Cambridge University Library. As for the letters written by Darwin to Mantegazza, the «Catalog of the Autographs of the Psychological Museum», compiled by Paolo Mantegazza himself, lists four letters from Darwin to Mantegazza. Unfortunately, none of these letters are found today among the patrimony of documents preserved in the Mantegazza collection of the Museum.

At the time of our first research (Bigoni and De France, 2014), we described that part of a letter from Darwin to Mantegazza (22 September 1871) was translated into Italian and then published by Mantegazza in the *Archivio*, 1872. The only surviving original letter from Darwin to Paolo Mantegazza currently known, is conserved at the Toronto University Library. It is dated 28 December 1872.

SCIENTIFIC BRIDGES BETWEEN ENGLAND AND ITALY

Paolo Mantegazza wrote extensively on Darwin and included also citations from the correspondence on the most important Italian cultural journal, the *Nuova Antologia*, to which he regularly contributed (Fagioli, 2022). Darwin also cited Mantegazza in his publications on a number of occasions.

In *Variations*, Darwin had quoted from a brief summary of Mantegazza's results that appeared in the *Popular Science Review*. In 1865 Paolo Mantegazza, had published *Degli innesti animali e della produzione artificiale delle cellule*, the results of hundreds of experiments made on many animal species in his laboratory of Pathology in Pavia (Garbarino and Mazzarello, 2013). The contents were divulged by *The Popular Science Review*, that had a large readership throughout the English-speaking world. Charles Darwin was among its readers. Mantegazza himself had been involved in scientific dissemination, and had used popularization as a sounding board for his theories. The correspondence appears to be proof of the effectiveness of this strategy.

However, there were apparent errors about Mantegazza's work both in the *Sciences Review* summary and in Darwin's transcription, and this raises issues on the technicality and level of details used in the popular science press. This first personal exchange between Darwin and Mantegazza was a glowing acclaim and an example of some of the reactions that Darwin had provoked on the continent. Support in France and Germany was mostly enthusiastic and prompted a considerable correspondence. On top of Mantegazza's first letter, Darwin annotated: «send my Photograph».

Mantegazza also referred to his book *Rio de la Plata e Tenerife* (Mantegazza, 1867), writing that «in a few days you will also receive my travels in La Plata, Paraguay, and the Canary Islands», and we know that Darwin received and

read the book as CD's annotated copy is in the Darwin Library—CUL (see *Marginalia* 1: 563-5) and subsequently referred to Mantegazza for information on ornamentation of native peoples (see *Descent* 2: 338 ff.).

Pangenesi

In 1865 Charles Darwin was struggling with the problem of inheritance. The transmission of hereditary features had always puzzled him because in his theory of evolution, the source of the inherited variation upon which natural selection was to act remained mysterious. However, after many endeavors, he developed a «provisional» theory of inheritance called «pangenesi», which allowed for an explanation of the differences in the offspring and the reasons for their inheritance.

As a theory, pangenesi was instrumental in supporting the theory of evolution and to responding to the critics of the *On the Origin of Species*. On *Nuova Antologia* Mantegazza cited from one of Darwin's missing letters, translating to Italian: «*Con una modestia serena, propria soltanto dei grandissimi, il Darwin mi scriveva: Io temo che voi non disapproviate il capitolo sulla pangenesi, ma ho fiducia che qualche cosa di molto analogo a questa teoria sarà un giorno adottato, e questa è già l'opinione di parecchi buoni giudici in Inghilterra*» (1868, 97). On the opposite of what Darwin feared, Mantegazza became a strong supporter of the pangenesi theory and defended the idea confronting the opposition of other experts of the time. Interestingly, an accredited female scientist participated in this debate.

Clémence Augustine Royer (Nantes, 21 April 1830 - Neuilly-sur-Seine, 6 February 1902) was also among the honorary members of the Italian Society of Anthropology and Ethnology (1874). In 1862 she had published the first French translation of *Origin of species* by Charles Darwin, a critical landmark for the dissemination of Darwinism in France.

In 1878 Mantegazza reviewed Royer's *Deux hypothèses sur l'hérédité* and firmly supported pangenesi: «*We regret having to contradict Mrs. Royer, who illustrates anthropology with such ingenuity, but in this work of hers we find ourselves at the antipodes of the excellent writer. She declares herself to be a firm opponent of the splendid Darwinian theory of Pangenesi, while we believe that without it, the laws that govern natural inheritance cannot even be understood in the alphabet...*» (Translated from Italian, 165).

A very crucial year: 1871

An important discussion (as noted by Darwin himself) between Darwin and Mantegazza concerned sexual selection. In order to explain the particular features that often distinguish males and females of the same species (secondary sexual characteristic) Darwin (1871) found necessary to add an

additional mechanism called «sexual selection». According to Darwin's theory of sexual selection, behavioral differences between the sexes lead to the evolution of very different characters. Males are primarily shaped by competition for access to females. The competition between males can be expressed in conflicts requiring the use of weapons such as horns or simply the development of large body size or exaggerated ornaments. On the other hand, females exercise choice among males. Although Mantegazza supported Darwin's theories in Italy, he had many reservations about sexual selection. His objections did not arise from false moralism.

Mantegazza was an unconventional and even daring scholar and writer, not afraid to tackle topics «hard to digest» for his time. His field of investigation included aspects of physiology, psychology and human behavior, which until then had been exclusively subjected and regulated by religious prohibitions. He wrote extensively on topics related to sexual behavior, which were destined to arise sensitive issues, harsh criticism and ostracism. An impressively long series of his books went straight to the *Index librorum prohibitorum*, implemented by the Catholic Church. His role as the founder of sexology and his influence on different aspects of Freud's studies are internationally recognized (Sigusch, 2008; Stanyon and Bigoni, 2010).

The *Archivio* contains extensive reports on the views of Mantegazza about Darwin's Natural Selection, then translated into Italian as «*elezione naturale*», and Sexual Selection. Mantegazza expressed without hesitation his admiration and public support for Darwin and his theory of natural selection, but lively disputed the value of sexual selection. Mantegazza fully accepted the Darwinian hypothesis that male weapons serve in combat with other males. The main objection insisted on the fact that, according to Mantegazza, females cannot make choices: they are instead subjected and subservient to the superior physical strength of the male. Mantegazza proposed an alternative hypothesis for the secondary sexual characteristics and other evolutionary novelties. He called this phenomenon «*neogenesis*», a concept reminiscent of the evolutionary jumps or the appearance of 'hopeful monsters' proposed by Mivart. *Neogenesis* was a consistent detachment from Darwinian gradualism. *Descent* had been published on 24 February of the same year. The level of interest for the book was shown by the number of foreign editions and translations. Accordingly, Mantegazza wrote that «*Your great work has made a great impression, and Lessona is to give us a good translation at Turin*».

Like *Variation*, *Descent* inspired Mantegazza to write introduced some reasons for discussion: Mantegazza thanked Darwin for the citation in *Descent* in his next known letter, in June 1871. Mantegazza himself reviewed *Descent* as well as Mivart's *The Genesis of Species* in his regular bimonthly column

«*Revista scientifica*» on the May issue of *Nuova Antologia* (1871, 17: 177-94), whose presence is now documented in the Darwin Archive in Cambridge.

On the tenth of June Mantegazza wrote to Darwin «*Je vous envoie une article que j'ai dédié à votre livre et qui a été publié dans le Nuova Antologia, qui est notre meilleure Revue en Italie [...]. Dans ma Revue qui est destinée aux hommes de lettre je n'ai pas parlé de quelques doutes sur la portée de l'élection sexuelle [...]; mais j'espère pouvoir vous les adresser sous forme de lettre dans notre Archivio d'anthropologie, qui se publie sous ma direction depuis le commencement du 1871*».

The questions would persist: Mantegazza would write in 1872 to Darwin: «*Your ideas are progressing in Italy, and quickly too. Only your sexual selection is being opposed, to which I have not been able to convert even after your last letter*» – a letter that has never been found.

Differences in degree or kind

In the first volume of the *Archivio* Mantegazza praised Darwin for having dealt with the evolution of the mental faculties of humans on the same basis as other species. Mantegazza had no doubts: «*... our mental powers differ only in degree from those of the lower animals*» (1871, 317). With this statement Mantegazza took a clear position in the Victorian heated debate on the definition of the differences between humans and other living beings: differences of degree or kind? This is a crucial issue that was debated with heated tones in England with among others Darwin and T.H. Huxley on one side with Alfred Wallace and St. George Mivart on the opposite front.

Paolo Mantegazza was well informed on every stage of the scientific debate. He reviewed also Mivart's book, *On the genesis of species*:

«*While Darwin's new work was being published or shortly before, a distinguished English naturalist, Mivart, wrote a volume against Darwin, in which the Author, with great severity of judgment, raised some objections to him [...]. He believes that natural election cannot explain the incipient stages of the modifications useful to the organism. [...] Mivart also fights Pangenesis, a theory that he finds even more obscure than the facts it should explain. The author is too concerned with harmonizing religion, science and philosophy...*» (191-192). Despite these objections, Mantegazza was very positive on the theory of the hopeful monster that he considered the most original part of Mivart's book and the most promising proposal for the future development of the evolutionary theory.

Expression

The 1872 correspondence revolve mostly around *Expression of the Emotions in Man and Animals*. We know Mantegazza proposed to translate the book for the Italian public, but Darwin kindly declined on the ground that he had

already an agreement: «*With respect to the translation of my book, if the possibility had ever occurred to me that you would have been willing to undertake it, I would assuredly have refused every other proposal; but as it is, two Gentlemen have applied to me, and I am pledged to one of them*» (Charles Darwin to Paolo Mantegazza, 28 December 1872). The first edition of *Expression* in Italian was published in 1878 translated by Giovanni Canestrini and Francesco Bassani.

From Florence to Toronto

How Darwin's letter to Paolo Mantegazza dated 28 December 1872 ended up at the University of Toronto is only partially resolved. It is possible to only reconstruct the most recent part of the journey.

Our previous research at the Darwin Correspondence project noted that the transcript of this letter (N. 20625, S 08696a: also published online) was listed as coming from Paul C. Richards. The reference to Paul Richards in connection with this letter was some years ago listed on the Darwin Project website. It was since been removed, but you can still find reference to it in the book published by them, «*A Calendar of the Correspondence of Charles Darwin*». From other research mostly online we found additional information on Paul C. Richards. He was considered as the most famous American autograph dealer of his time. He died in 1993 at age 54 (<https://www.raabcollection.com/blog/legacy-great-autograph-dealers-past>). The letter was then purchased from the collector and donated to the library by Denis Lee, in 2010. Dennis Lee was a famous Canadian writer and laureate poet. It is very fascinating that he apparently had interest in this letter, 2010 was also the year of Lee's death.

CONCLUSIONS

Darwin conserved Mantegazza's letters, and today the notes that he left some directly on the letters in his own hand while we assume preparing a reply to Mantegazza offer a precious testimony of Darwin's ideas. It is an incredible loss that Darwin's letters disappeared. Hopefully, they will resurface as the Toronto letter recently did.

The discussion on sexual selection was kept alive in the following years and we find polemical hints in the letter of another Italian scientist, Federico Delpino, to Charles Darwin on April 18. 1875: «*I published a brief article «sulle piante a bicchieri» in the Nuovo Giornale botanico italiano. This note provoked the sarcasm of Prof. Mantegazza, who ridiculed the idea of the existence of carnivorous plants [...]. I know that he has also published unfounded and superficial attacks on the principle of sexual selection [...]. Indeed, the evidence of my studies on dichogamy indirectly support this principle*» (original in Italian, *Darwin Correspondence*

Project, «Letter no. 9939», accessed on 4 July 2022, <https://www.darwinproject.ac.uk/letter/?docId=letters/DCP-LETT-9939.xml>).

Mantegazza made a famous speech at the «Commemorazione di Carlo Darwin» officially celebrated in the Reale Istituto di Studi Superiori in Firenze. We know from the Rendiconti of the society that Mantegazza wrote a condolence telegram in name of the Society to the family and that Francis Darwin answered. This is confirmed by John van Wyhe, ed. 2002 -. *The Complete Work of Charles Darwin Online* (<http://darwin-online.org.uk/>) who reports also the text of the telegram. Unfortunately, also the Francis Darwin letter was not found.

Darwin's and Mantegazza's correspondence does much to highlight the process of the internationalization of science as well as the tensions that could result from widely varying approaches, including the context of the development of vulgarization. The letters often follow or react to the publication of a new book, and represent a great case study of the diffusion of Darwinism in continental Europe.

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