

## **The Cosmopolitan Peirce: His European Travels**

Jaime Nubiola  
Universidad de Navarra  
[jnubiola@unav.es]

### **0. Introduction**

Dear colleagues and friends,

I am extremely happy to be here in this very special place surrounded by people whom I love on the occasion of the inauguration of the new monument in Peirce's burial place. In some sense this may be considered the culmination of the International Centennial Conference that we celebrated five years ago in Lowell. My special gratitude goes to professor Rosa Maria Mayorga who has been the driving force behind the plaque that we installed in Arisbe and with the monument. I also want to thank Kathy Hull for her warm invitation to be a speaker this afternoon.

As some of you know, Charles S. Peirce wrote in a letter to his mother on 16th of November of 1870 after a short trip through Spain: "The Spanish speak as if they had pebbles in their mouth, which makes it very difficult to catch the distinction of their sounds". Since, we have not improved very much on that in the last century, I have distributed photocopies of the text that I will read and I have also the help of some images which are perhaps the most interesting.

Charles S. Peirce traveled to Europe on five different occasions. The five trips occurred between the years 1870 and 1883, all of them in the service of the Coast and Geodetic Survey, at that time the chief scientific agency of the United States. Those trips — which covered a total of thirty-eight months— were a rich mixture of scientific research and tourism, of communication with other scientists and of enjoying the artistic treasures of Europe. The impact of this extensive travelling was so important to Peirce's life and thought that it makes perfect sense to identify this period of time as his “cosmopolitan period”—to use Max Fisch's expression (Fisch 1986, 227).

Peirce's experiences of his European voyages are vividly reflected in his extensive correspondence (professional and family letters), which until now has been neglected by the scholarship, partly because it is difficult to access and partly due to the analytic tradition's general lack of interest in the biographical aspects of philosophy. A close study of Peirce's letters and other documents from those years helps in avoiding a number of misunderstandings about his thought and its evolution, highlighting his active participation at the vanguard of cooperative scientific research in astronomy, geodesy, and metrology.

Since 2007 the Group of Peirce Studies in Navarre has undertaken various projects dedicated to the study of Charles S. Peirce's relationship with Europe through his

correspondence. Up to the present we have transcribed, translated and annotated more than 170 letters and other 413 documents from Peirce's five European journeys, and we have also studied his relationship with some 36 European correspondents.<sup>1</sup> The name of Dr. Sara Barrena should be highlighted as the most important translator of Peirce's texts into Spanish. Also I want to thank our documentalist Jacin Luna and our webmaster Izaskun Martínez. Our plan is to finish this project in the year 2019, studying, translating into Spanish and publishing the letters and documents from his fifth trip and to start to think into a whole volume with all our work and our findings<sup>2</sup>.

In my brief presentation of today I want to describe summarily his five trips trying also to provide some of the images that we have collected during those years to make more enjoyable my presentation.

### 1. First European Journey: 18 June 1870 - 7 March 1871

The main goal of Peirce's first trip to Europe was to identify possible locations suitable for establishing observatories in order to study the total solar eclipse that was to take place at noon on December 22nd, 1870 over the Mediterranean Sea. Moreover, his father Benjamin Peirce wanted to introduce his son to several prominent European scientists (De Morgan, Jevons, Clifford, etc.). On June 18th, Peirce sailed for London in the company of his brother Jem, on the steamer *S. S. Deutschland*. The brothers separated in London, and Charles crossed to the continent. In the fall, Charles would be joined by his father, Benjamin, his wife Zina and the rest of the team of observers in charge of the observation of the solar eclipse.

Charles Peirce's itinerary led him from London to Berlin, Dresden, Prague, Vienna, Pest, the Danube river, Varna (Bulgaria), the Black Sea, and, finally, Constantinople. From Constantinople Peirce traced the path of totality, that is to say, the path of the locations where the total eclipse would be visible, scouting for the most suitable locations for scientific observation. He pointed out locations in Greece, Italy, and Spain. Finally, he observed the eclipse, together with one of the American teams, from Catania, in Sicily. As Joseph Brent wrote, "this expedition was Charles's first experience of large-scale international scientific cooperation, and it illustrated for him the importance of the community of science in reevaluating and validating its hypotheses" (Brent 1993: 80; *W* 2: xxxiv).

After the eclipse, they returned to Rome, via Naples, and Charles and Zina begin an extensive trip through Italy, Switzerland, Germany and England, recorded in quite a bit of detail in the notebook that Charles Peirce wrote in the first six weeks of the year 1871. Charles and his wife would embark on the *Aleppo* steamer, which left Liverpool on February 21 and arrived in Boston on March 7.

This journey constituted an important experience for the young Charles Peirce. His letters are full of accounts of the impressions that the various places made upon him, and they also show the human side of Peirce, as when he worries about getting robbed or ill, or when he is subject to mood swings and changing sentiments. As a cosmopolitan traveler, Peirce

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<sup>1</sup> See <http://www.unav.es/gep/CorrespondenciaEuropeaCSP.html>

<sup>2</sup> We are extremely grateful to the help of the Peirce Edition Project throughout all these years, in particular to its directors Nathan Houser and André de Tienne who made possible all our work thanks to the trove of documents collected by Max Fisch and kept in the Project. We are also grateful to all the information available in the volumes of the *Writings* and to Brent's biography of Charles S. Peirce.

writes pages and pages with comments about the climate and the weather, the dirt of the cities and places where he stays, about wines and food, prices and bargaining, clothes, means of transportation, and, in sum, about the customs and curiosities of the many places he is visiting.

Some findings of our Group corresponding to this first journey are:

- 1) Peirce's registration in the Reading Room of the British Library.
- 2) Peirce's signature in the visitors' book of Alhambra, Granada
- 3) The identification of the members of the American team in Sicily.
- 4) The verso of the last page of the letter to Zina from Syracuse: "Syracuse is a filthy place. On the other side of this leaf is a figure of my hand as it was yesterday morning showing the flea bites."

## **2. Second European Journey: 3 April 1875 – 20 August 1876**

Let's now turn to Peirce's second assignment to Europe (April 1875 - August 1876) — the longest one— related with his extensive work with pendulums for gravimetric determinations in what were called the initial stations (Geneva, Paris, Berlin and Kew) to be compared with the determinations of the gravity in Hoboken, New York.

In the spring of 1874, Benjamin Peirce resigned his position as Superintendent of the Coast Survey and became a 'Consulting geometer', maintaining his influence in the institution but freeing himself of the administrative burden. Benjamin and Carlile P. Patterson, the new Superintendent, decided at the end of 1874 that Charles Peirce should spend at least one year in Europe to improve the American geodesy and to try to put that science at the European level.

According to this decision, Charles and his wife Zina, together with Peirce's assistant, Henry Farquhar, left for Europe in April 1875 in the steamer *Adriatic*, where he met William H. Appleton, editor of the *Popular Science Monthly*, who offered him a good price for some articles for the magazine. The main places visited were London, the Kew Observatory, Berlin, Geneva and Paris.

In England Peirce spoke of geodesy with several British instrument makers and scientists, among others with James Clerk Maxwell at the Cavendish Laboratory in Cambridge, who agreed with his views on the characteristics of the resistance that affects pendulums. He also met with mathematician William K. Clifford. From England, Zina, Farquhar and Peirce went to Hamburg to collect a reversible Bessel pendulum, suitable for absolute determinations of gravity, which had been commissioned two years before at Repsold. From Hamburg they continued their trip to Berlin. There, Zina visited her sister Amy, who studied music there, and Charles had several interviews with General Baeyer, founder and president of the Royal Prussian Geodetic Institute.

In July Peirce proceeded alone —without Zina that stayed with her sister— for Geneva, where he met Émile Plantamour, director of the Observatory, to test the Repsold

pendulum. In September Peirce will move to Paris, where the Permanent Commission of the International Association of Geodesy met for ten days, chaired by the Spaniard Carlos Ibáñez de Ibero. On one of those days Peirce reported his findings in Geneva.

During this second trip, he was able also to examine Medieval and Renaissance manuscripts from Ptolemy's star catalog at the National Library of Paris and the British Museum. He had a close relation with Henry James in Paris and enjoyed Paris life: <http://www.unav.es/gep/CSPHenryJames.html>

In May of 1876, while in Berlin, Peirce suffered a serious nervous breakdown, the main symptom of which was a temporary but complete paralysis. In mid-June Charles S. Peirce will return to London to make gravimetric determinations at the Kew Observatory. On June 20 Zina will arrive in England to take care of him and they will return together to Boston in the steamer *Marathon* that left Liverpool on August 8 and arrived in Boston on the 20th.

Perhaps our best findings of this trip are:

- 1) The letter of October 5, 1875 of C. S. Peirce requesting access to the manuscript section of the French National Library.
- 2) The six original and unpublished letters of Peirce between May 1875 and October 11, 1876 that we found at the British National Archives in the documentation of the Kew Observatory.

### **3. Third European Journey: 13 September 1877 – 18 November 1877**

This is the shortest European trip of Charles S. Peirce —but is important for his scientific profile— on the occasion of the meeting of the International Geodetic Association in Stuttgart, Germany, from September 27 to October 2, in which Peirce defended his views on the bending of the stand of the pendulum and its influence on the accuracy of the measures of gravity.

Peirce leaves on September 13, 1877 to Europe in the steamer *Suevia*. During the sailing Peirce took the opportunity to write most of the second article ("How to Make Our Ideas Clear") of the series that would be published in the *Popular Science Monthly* the following year, as well as the French translation of the first one ("The Fixation of Belief"). Upon arrival in Plymouth on Monday, September 24, Peirce passes through London and continues his evening trip through Dover and Ostend to Brussels, where he takes the night train to Stuttgart. As he describes in his letters, there he met old friends who gave him a great welcome, among them Theodor von Oppolzer and the old General Baeyer. Let us copy Peirce's description forty years later of his great success:

I met Genl. Baeyer and his daughter in the corridor of the hotel as I was being shown to my room and the old General who had been fighting for me all day but really did not *know* much about the subject was so delighted to see me that he threw his arms round me and kissed me on both cheeks! The next morning I went into the meeting which was a particularly distinguished gathering, several men who were not regular geodesists being among them, as Henri St. Claire Deville —M. Faye— etc. I began with the mathematical theory which I had, in coming across, succeeded in putting into a form in which every man of them could see the correctness of it. Then I described the instrument by which I had automatically registered the instants of the passage of the pendulum over the vertical, while it was swinging on the brass

tripod and when it was on a properly stiff support. I had the chronograph sheets with me, and the whole demonstration was complete, and when I sat down each of my three antagonists at Brussels [the previous meeting where CSP proposal had been criticized in his absence] got up one after another and very handsomely admitted that I was entirely right. And from that time I was acknowledged as the head of that small branch or twig of science<sup>3</sup>.

After the success of Stuttgart, Charles S. Peirce goes to Leipzig and to Berlin where he makes comparisons in the Observatory between the North American and the Prussian pendulums. From Berlin he goes to Paris where he arranges with Théodule Ribot the publication in the *Revue Philosophique* of the articles prepared during his trip, visits the Observatory and some builders of instruments. On November 1 he travels to Rouen where he admires its cathedral and on November 2 he returns from Le Havre to the United States in the steamer *Herder*. He will arrive on the 18th and soon after will suffer a new nervous breakdown, perhaps caused by the excessive work and activity of the previous months.

Of our findings I will only mention, for instance, that we were able to identify the comedy-vaudeville *La poudre d'Escampette* that Peirce attended in Brussels: "In the evening I went to the theatre & saw a very amusing play & after the theatre I took the train for Stuttgart".

#### 4. Fourth European Journey: 28 April 1880 – 4 August 1880

The fourth trip of Charles S. Peirce is his European journey least studied by Brent in his biography or by Houser in his introduction of volume 4 where only one paragraph is dedicated to it, but it seems very interesting. It was mainly a long stay in Paris with a short trip to London.

Peirce was dedicated in Paris to measurements of gravity in the Observatory of Paris, then directed by Admiral Ernest Mouchez. The determinations that had been made there in previous trips varied significantly with respect to the measures established by Borda and Biot decades before, but Peirce managed to show that, by correcting some errors that Borda and Biot had not suspected, the results of their work became very similar. The text "On the Value of Gravity at Paris" [W4: 148-151] is a translation of "*Sur la valeur de la pesanteur à Paris*", which was presented at the French Academy of Sciences<sup>4</sup>.

Peirce expected to travel to Munich in September, where he wanted to present the results of his experiments with the pendulum at a new meeting of the International Geodetical Association, but he was forced to return to the United States because of his father's serious illness. He sent an abbreviated report in the form of a letter to Hervé Faye, which would be published in the proceedings of the meeting of the Association. Peirce probably returned aboard the French steamer *St. Laurent* that departed from Le Havre on July 24 and arrived in New York on August 4 after a voyage "in which there were strong winds from the west and fog most of the time" (Victor Lenzen to Max Fisch, March 3, 1963, W4: xx).

Our most cherished findings by now are the images of the Paris Observatory Diary and the letter requesting permission from the director of the French National Library, Leopold Delisle, on May 26, 1880, to work in the manuscript room for a study Peirce is preparing on

<sup>3</sup> Draft letter from Charles S. Peirce to J. H. Kehler, Milford, 22.06.1911, L 231.

<sup>4</sup> It was published in *Comptes Rendus des Séances of L'Académie des Sciences*, vol. 90, 1401-1403.

"the history of the physical sciences for which the treasures of the National Library contain precious materials".

### **5. Fifth European Journey: 2 May 1883 – 18 September 1883**

Peirce's last European journey had a scientific side, but also a relevant personal side. On the 24th of July 1883 he obtained the legal divorce from Zina and on the 26th he married Juliette in New York. Apparently Juliette had told Peirce that she would not marry him unless they traveled to Europe and repeated the ceremony there.

The couple makes the trip in the ship *Labrador* that leaves New York on May 2 and arrives in Le Havre on Saturday, May 12 at night. They stay there at the *Grand Hotel & Bains Frascati*. Juliette immediately leaves for Paris with some friends and Charles stays at Le Havre for the disembarkation of the boxes of scientific material and the passage of customs.

On Thursday, May 17, Peirce leaves for Paris where he stays with Juliette at the *Hotel Louvois*. He will be in Paris until June 6. In these three weeks he will go to the National Library, where he transcribes the *Petrus Peregrinus* manuscript, visits the instrument makers Brunner, Breguet and Gautier, talks with Ribot and meets the *Bureau des longitudes*. In his letter to Hilgard on May 1 he describes in some detail the scientific work developed in these weeks. My suggestion is that perhaps in this stay in Paris is when Peirce bought the splendid trunk that can be seen at the Pike Historical Museum.

On June 7 they leave for London. Peirce devotes two weeks to a careful comparison of the Coast Survey yard with the British one in the British Standards Office. At the beginning of July they move to Richmond, Surrey, where the Kew Observatory is located. There they stayed at the *Star and Garter Hotel*.

On July 25, they left England for Brussels, Liège and Cologne. On August 1 they are already in Brühl, Prussia, from where Peirce writes an extensive letter to Hilgard telling his scientific activities during the month of July. Here the trace of the couple is lost and probably throughout the month of August they renew the marriage ceremony somewhere in France — perhaps in Nancy— where Juliette had her family background.

Probably Charles S. Peirce and Juliette pass through Bremen —since a label of the *Hotel Hillmann* is kept in Peirce's hatbox— and they visit also Prague, as the *Hotel de Saxe's* label in the hatbox suggests. They would go also to Geneva, where Peirce measured the flexion of the support he had used as the stand of the pendulum, and to Basel, which is mentioned by Hilgard in his instructions of April 24, 1883. In any case, on September 8, both embark on the steamer *France* that leaves Le Havre and arrives in New York on September 18.

### **6. Conclusion**

Well, the presentation of those evidences could be continued for a long time, but it seems to me that it is just enough to get a sense here in Milford of the richness of the European travels of Charles S. Peirce in his cosmopolitan period.

Thanks a lot for your attention.