

On the discovery of some articles on history and development of physics connecting to Bruno Pontecorvo (French Period 1936–1939)

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Summary. — During some research about the activity of the Physics Institute of the University of Pisa before the Second World War, some articles connecting to Bruno Pontecorvo, who was a collaborator of Enrico Fermi's in via Panisperna researches, came out. These articles were written by Pontecorvo under pseudonym and published in a Paris newspaper in the Italian language, in which many Italian anti-Fascist refugees wrote, during the so-called “French period” (1936–1939), when Bruno Pontecorvo was a refugee in France. These articles regard various subjects, from M.me Curie's discoveries and the artificial radioactivity to the nuclear fission, considering their possible applications too.

1. – Introduction

The goal of this paper is to illustrate the results of the author's research that points out the discovery of some Bruno Pontecorvo's articles published under pseudonym in the daily newspaper *La Voce degli Italiani* (1937–1939) and of some terms illustrated by him into the Italian Encyclopaedia *Treccani*, too. These results are a consequence of the author's research that has the aim to analyze all books, newspaper, journal or any other written documents having as author physicists or as subject physical themes, edited in the Fascist period, a period of interest, with a particular focus on the period before the Second World War (this keeping in mind that many of the magazines, journals or editors of that period stopped being published in 1943, when the Fascism as Italian government fell).

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In particular, the research whose results are illustrated in this paper was carried out by the author in the Scuola Normale Superiore (SNS) of Pisa, where, in the “Fondo Bernardini” in the archives of the SNS of Pisa, he could read Sergio De Benedetti’s memoirs *Note Antifasciste* [1], that revealed that some Jewish Italian scientist wrote under “pen name” in *La Voce degli Italiani*. As a consequence of this, the author had the aim to verify these claims, analyzing the original copies of the newspaper *La Voce degli Italiani* placed in the Feltrinelli Foundation in Milan. As a result of this research, Sergio De Benedetti’s affirmations were verified.

At the same time, reading the original copies of the Italian Encyclopaedia *Treccani*, entitled *L’Enciclopedia Italiana di Scienze, Lettere ed Arti* [2], published in the same years and placed in the library of the SNS of Pisa, the author could discover that some terms of that Encyclopaedia had, as a signature, B.PON. which, according to the legend present in the same Encyclopaedia, corresponds to Bruno Pontecorvo.

2. – At the basis of the present historical research

Sergio de Benedetti (1912–1994), a Physicist, during his stay as a Jewish refugee in the United States, wrote his memoirs entitled *Memoirs of an Anti-Fascist* [3]⁽¹⁾. In his Introduction he revealed the reasons that had brought him to write his memoirs:

Why did I ever write these memoirs? Partly to fill the empty evenings upon arriving in an unfamiliar American continent; to keep myself occupied, to think back on distant friendships, on beloved places, on problems which I couldn’t discuss with my newfound American acquaintances. But also, and most importantly, to explain to America the problems of Europe and to make my contribution to the struggle against Fascism which I was too far away to fight. Thus one cannot expect these memoirs to be objective. The motivation for them was strictly partisan⁽²⁾.

Sergio De Benedetti, when he was a Jewish refugee in France, wrote some articles in the daily newspaper *La Voce degli Italiani*, that was an anti-Fascist newspaper printed in France in the Italian language from 1937 to 1939.

In these memoirs my attention was captured by these words:

They seemed to be pleased with my work at the newspaper, and invited me to collaborate on a regular basis —that is, they proposed a weekly column about science which was intended to raise the cultural standards of the newspaper. I talked it over with my friends at the laboratory and they were enthusiastic.

The first to contribute was Bruno Pontecorvo, whose pen name was Mario Sbrana. (See [3], page 105.)

Even, Vicini, the biologist, began to contribute enthusiastically. And so atoms, electrons, chromosomes and viruses made their appearance each Saturday on page three of the Voice. (See [1], Chapt. IX, page 16.)

According to this last Italian version of the memoirs (placed in SNS), there is a circle by pen around the name of “Vicini” and near the name “Salvatore Luria” (the winner of the Nobel Prize in Medicine in 1969).

⁽¹⁾ This version of De Benedetti’s memoirs were translated by Lydia, Vera and Gilbert De Benedetti. It is possible to see also another version of Sergio de Benedetti’s memoirs written in Italian in 1941–1943 (according to his own admission) and then elaborated again by the same author in 1966. The title of the Italian version is *Note Antifasciste*.

⁽²⁾ See S. de Benedetti, *Foreword by the author*, in [3].

3. – Research and results

3'1. *Articles under pen name in La Voce degli Italiani written by Pontecorvo, Luria, De Benedetti (1939).* – In order to verify the contents of Sergio De Benedetti's memoirs, in relation to the names of Mario Sbrana and Giorgio Vicini as authors of scientific articles published in *La Voce degli Italiani*, I looked for what institution could have all the copies published by this daily newspaper. I found that two institutions had all the collection: *Istituto Gramsci* in Rome and *Feltrinelli Foundation* in Milan. I chose to visit the Feltrinelli Foundation to do my research.

In the Feltrinelli Foundation in Milan I examined all numbers of the daily newspaper *La Voce degli Italiani*. The relative copies were printed from the 11th of July 1937 until the 29th of August 1939. I could examine all these copies distributed as follows.

- 1937: from number 1 (Sunday 11 July 1937) to number 150 (Friday 31 December 1937) total 150.
- 1938: from number 1 (Saturday 1 January 1938) to number 306 (Saturday 31 December 1938) total 306.
- 1939: from number 1 (Tuesday 3 January 1939) to number 200 (Tuesday 29 August 1939) total 199 (the number 199 was not printed).

Thanks to this examination, I found that only in relation to the copies published in 1939 I could verify Sergio De Benedetti's statements, as shown in table I.

In fact, I could find six articles by Mario Sbrana (aka Bruno Pontecorvo) just published on Saturday, according to the indications within the Sergio De Benedetti's memoirs.

In the same year and also on Saturday, I found five articles by Giorgio Vicini (aka Salvatore Luria), in particular four scientific articles on Saturday publications and only one on Tuesday about a political subject.

In the same year, I found also eight articles, about scientific subjects, by Renzo Viale and this could be the second pseudonym used by Sergio De Benedetti.

The first pseudonym used by De Benedetti and revealed by himself in his memoirs was "Lucio Minori", about the second he says that he could not remember it. In fact, during my research concerning the articles in *La Voce degli Italiani* I also found some articles by Lucio Minori (aka Sergio De Benedetti) described as follows.

- Thursday 9 March 1939: L'Università in Italia.
- Friday 17 March 1939: Aspetti politici della nuova emigrazione ebraica.
- Tuesday 28 March 1939: La "difesa della razza" nella scuola.
- Wednesday 5 April 1939: Il "Consiglio delle Ricerche".
- Wednesday 14 June 1939: Conversazione con un cinese.
- Tuesday 27 June 1939: La pensée, rivista del razionalismo moderno.

In order to understand the reason why these Jewish Italian scientists (Pontecorvo, Luria and De Benedetti) used pseudonyms to publish their articles in *La Voce degli Italiani*, it is necessary to remember that after the Racial Laws promulgated in Italy in 1938, as many other Jewish scientists, they were obliged to leave Italy escaping in Paris. There they wrote in the anti-Fascist daily newspaper *La Voce degli Italiani* using pseudonyms just to have the possibility to freely express their opinions escaping from the Fascist persecution.

TABLE I. – *The articles of newspaper La Voce degli Italiani by Viale, Vicini, Sbrana (1939).*

Date	Title of the articles	Renzo Viale aka Sergio De Benedetti	Giorgio Vicini aka Salvatore Luria	Mario Sbrana aka Bruno Pontecorvo
Saturday 18 March 1939	Sulle vie del progresso umano —Alberto Einstein	X		
Saturday 22 April 1939	La luce delle stelle	X		
Saturday 29 April 1939				
Wednesday 3 May 1939	I raggi cosmici	X		
Saturday 6 May 1939	Una piccola officina vivente: la cellula		X	
Saturday 13 May 1939	Mondi infinitamente piccoli			X
Saturday 20 May 1939	Le aurore boreali	X		
Saturday 27 May 1939	Alchimia e radioattività. Da Maria Ebra a Irene Curie			X
Saturday 3 June 1939	Il Palazzo delle scoperte. La spirale dell'evoluzione	X		
Saturday 10 June 1939	La trasmutazione della materia			X
Saturday 17 June 1939	Eredità e genetica		X	
Saturday 24 June 1939	Verso una grande conquista. L'utilizzazione dell'energia nucleare			X
Saturday 1 July 1939	L'elettrone	X		
Tuesday 4 July 1939	Cultura, estetica e fascismo		X	
Saturday 8 July 1939	Problemi di biologia e medicina: l'alimentazione		X	
Saturday 15 July 1939				
Saturday 22 July 1939	Gli elettroni nei metalli	X		

TABLE I. – *Continued.*

Date	Title of the articles	Renzo Viale aka Sergio De Benedetti	Giorgio Vicini aka Salvatore Luria	Mario Sbrana aka Bruno Pontecorvo
Saturday 29 July 1939				
Saturday 5 August 1939	Come si vedono le particelle invisibili			X
Saturday 12 August 1939	Al confine fra la vita e la materia inerte: I virus filtrabili		X	
Saturday 19 August 1939	Per vedere l'invisibile			X
Saturday 26 August 1939	La lampada dell'apparecchio radio	X		
Total articles by authors		8	5	6

In order to preserve their identity, there was also another peculiarity: nobody, except for Anna Caprera —aka Laura Levi Makarius (1908–1993) [4], another Jewish Italian scientist who wrote articles in *La Voce degli Italiani*— had to know their real names and addresses. So all the articles written by Pontecorvo, Luria and De Benedetti had to be delivered to *La Voce degli Italiani* through the person of Anna Caprera (just a double level of security). In Sergio De Benedetti's memoirs it is possible to read:

(...) *They told me that, at the office, nobody except Anna Caprera, would know my name or address. Every appointment would be made through her and I had to use a pen name and never come to the office. "Why such secrecy?" I asked. These are simple precautions. Your mother is still in Italy, and you are more useful if you don't expose who you are (...).* (See ref. [3], page 102.)

3'2. Notizie e curiosità scientifiche in *La Voce degli Italiani*. – In his memoirs, Sergio De Benedetti also wrote the following considerations:

(...) *besides the usual articles that we had been preparing every week, we were given two more columns of science news, briefly reviewing the results of research done in various fields. This work required spending several hours in the library, leafing through various journals and limiting ourselves to writing abstracts of articles whose subject matter was accessible and which could be of interest to the general public. (...)* *Our articles were placed next to a column which poked fun at the fascist authorities and members of the royal family. It was supposed to be witty, but in fact it was vulgar and it the worst possible taste. (...)* *Our science news articles were well received, but they were only published*

TABLE II. – *Notizie e curiosità scientifiche from La Voce degli Italiani, 1939.*

Day	Date
Saturday	13 May 1939
Saturday	20 May 1939
Saturday	27 May 1939
Saturday	03 June 1939
Saturday	10 June 1939
Friday	16 June 1939
Friday	23 June 1939
Friday	30 June 1939
Friday	07 July 1939
Friday	14 July 1939
Friday	21 July 1939
Friday	28 July 1939
Friday	04 August 1939
Friday	11 August 1939
Friday	28 August 1939

once a week , and the gossip column never moved from its spot on Saturday on page three. (See [3], page 105.)

Doing my analysis of all the copies of *La Voce degli Italiani*, I found in fact two more columns of science news, as written by Sergio De Benedetti in his memoirs, entitled *Notizie e curiosità scientifiche* (see table II). No signature was provided, but as he wrote, news were edited by B. Pontecorvo, S. Luria and himself.

As shown in table II, the request to shift the gossip column from its spot on Saturday was not accepted and there was a shift of the column of science news from Saturday to Friday.

4. – The Mario Sbrana (alias Bruno Pontecorvo) articles in *La Voce degli Italiani* (1939)

In relation to the subjects of the six articles written by Mario Sbrana (alias Bruno Pontecorvo) within *La Voce degli Italiani* discovered during the present research, as specified in table I, it is necessary to underline that these articles deal with scientific subjects but their scope is to present them to non-specialist readers, as we can expect from a daily newspaper, that was not a scientific journal. In few words, these subjects can be summarized as follows.

- a) *Mondi infinitamente piccoli* (published on Saturday, 13 May 1939): in this article some theories about atoms are described. The analysis moves from the hypothesis of Democritus (dating back to more than two thousands years ago) until the Rutheford's discovery on the constitution of the atom.

- b) *Alchimia e radiottività. Da Maria Ebra a Irene Curie* (published on Saturday, 27 May 1939): the author at the beginning of the article deals with the ancient desire of man to “create” gold and so he points out and remembers the figure of Maria Ebra, who wanted to find the so-called “philosopher’s stone” in the first century AD. Then Pontecorvo goes on showing the reader the discoveries of Becquerel in 1936 and also M.me Curie’s ones concerning radioactivity.
- c) *La trasmutazione della materia* (published on Saturday, 10 June 1939): the author begins attributing to Rutherford the great merit to be the first scientist who was able to split the atomic nucleus of azote using alfa particles. Then, he goes on examining the first experiments carried out by Joliot Curie and Enrico Fermi.
- d) *Verso una grande conquista. L'utilizzazione dell'energia nucleare* (published on Saturday, 24 June 1939): in this article the author deals with how it is possible to produce energy from atoms.
- e) *Come si “vedono” le particelle... invisibili?* (published on Saturday, 05 August 1939): the subject of this article regards the laboratory instruments that can be used to study particles.
- f) *Per vedere l'invisibile* (published on Saturday, 19 August 1939): the author describes the “Wilson’s camera” and then explains how to be able to recognize particles using their trails of light.

5. – The discovery of some terms by Pontecorvo in the Italian *Treccani Encyclopaedia*

Having as methodology of research the discovery of books, newspaper, journal or any other written documents having as author physicists or as subject physical themes published in the Fascist period, the period of interest, with a particular focus on the period before Second World War, I found at the library of Scuola Normale Superiore of Pisa the original edition of the Italian *Treccani Encyclopaedia*, whose numbers were edited from March 1929 to 1943 as *L'Enciclopedia Italiana di Scienze, Lettere ed Arti*. Examining this first edition of the encyclopaedia, I tried to examine all the terms having as subject physical contents. During this research I found some terms of this kind having as signature B.PON., signature that, according to the legend of terms’ authors placed in the encyclopaedia, corresponds to Bruno Pontecorvo, indicated as “Assistente nella Regia Università di Roma: Fisica”.

In particular, these terms are placed into the following volumes of the examined *Treccani Encyclopaedia*:

- year 1935, Vols. XXVII and XXVIII;
- year 1936, Vol. XXIX;
- year 1937, Vols. XXXIII and XXXV.

Bruno Pontecorvo accepted to collaborate to the Italian *Treccani Encyclopaedia* at the beginning of 1935. Then, in 1936, he left Italy to go to study in France and there he remained until 1940, when he took shelter in the United States of America because of the invasion of France by the German Army just in that year.

In table III it is possible to see in a detailed way the terms having the B.PON. signature within the *Treccani* volumes that I noticed during my research.

TABLE III. – *Terms B.PON. (aka Bruno Pontecorvo) in Enciclopedia Italiana Treccani.*

Number	Year	Title and page
Vol. XXVII	1935	Picnometro; p. 160
		Tubo di Pluker; p. 554
		Poli magnetici; p. 718
Vol. XXVIII	1935	Apparecchio di proiezione; pp. 318–319
Vol. XXIX	1936	Rendimento; pp. 57–58
		Reticolo di rifrazione; pp. 146–148
		Processo reversibile; p. 178
		Metodi per la determinazione L'indice di rifrazione; pp. 312–315
Vol. XXXIII	1937	Termostato; pp. 601–602
Vol. XXXV	1937	Voltmetro; p. 580
		Voltometro; p. 584
		Watt; p. 678
		Watt-metro; p. 689
		Watt-ora; p. 689
		La pila di Weston; p. 724

6. – Conclusions

The results of the research illustrated in this paper make it possible to verify some affirmations that are present within the Sergio De Benedetti's memoirs. In particular, examining the original copies of the daily newspaper *La Voce degli Italiani* that are present at the Feltrinelli Foundation in Milan, I actually found some articles by

- Mario Sbrana (aka Bruno Pontecorvo, according to De Benedetti's memoirs);
- Giorgio Vicini (aka Salvatore Luria, according to De Benedetti's memoirs at the Scuola Normale Superiore of Pisa)⁽³⁾;
- Lucio Minori (aka Sergio De Benedetti, according to his own memoirs).

In relation to the articles having the signature Renzo Viale, it is possible to attribute them to Sergio De Benedetti —considering Renzo Viale the second “pen name” that De

⁽³⁾ In [3] there is the explicit indication of Salvatore Luria as the real name of Giorgio Vicini, while in the copy of the De Benedetti's memoirs present at the Scuola Normale Superiore of Pisa, in Italian, it is possible to find a handwritten note indicating the name of Salvatore Luria just near the name of Giorgio Vicini.

Benedetti said in his memoirs that he could not remember⁽⁴⁾— thanks to an analysis of the whole articles that according to Sergio De Benedetti were published under pseudonym in *La Voce degli Italiani*. In fact, De Benedetti wrote in his memoirs that some articles, having as subject a scientific one, were published under “pen name” in 1939 on Saturday by himself (not under the pen name of Lucio Minori, but under a pseudonym that he could not remember), by Mario Sbrana and by Giorgio Vicini.

Analyzing the articles published with the characteristics corresponding to these affirmations⁽⁵⁾, it is possible to point out that these articles show three signatures and two of them (Mario Sbrana and Giorgio Vicini) can be directly attributed (to Bruno Pontecorvo, according to De Benedetti’s memoirs, and to Salvatore Luria, according to the handwritten note in the Italian version the memoirs present at the Scuola Normale Superiore of Pisa, and according to the indication in the English translation by Lydia, Vera and Gilbert De Benedetti), while the third one, related to Renzo Viale, may be attributed to Sergio De Benedetti because according to his memoirs, he was the third author even if he could not reveal the third “pen name” because he could not remember it. Consequently, Renzo Viale may be considered the forgotten Sergio De Benedetti’s “pen name”.

The research presented in the present paper makes it possible to verify also another affirmation present in De Benedetti’s memoirs, regarding the presence, once a week, of two columns of scientific news. In fact, *Notizie e curiosità scientifiche* is present once a week as previously indicated.

Finally, thanks to the research that I carried out in relation to the publications connecting to the period before the Second World War, I could find within the original edition of the Italian *Treccani* Encyclopaedia, present in the library of the Scuola Normale Superiore of Pisa, some terms having as signature B.PON. that, according to the legend present in the encyclopaedia, corresponds to Bruno Pontecorvo.

In conclusion, thanks to these researches I may affirm that Bruno Pontecorvo in the period 1935–1939 (almost corresponding to the “French period” 1936–1940) wrote some articles published in 1939 under the pseudonym of Mario Sbrana in *La Voce degli Italiani* and he described some terms in the Italian *Treccani* Encyclopaedia in the years 1935–1937. It is impossible, at this moment, for me to attribute to Bruno Pontecorvo the single news presented in *Notizie e curiosità scientifiche* of *La Voce degli Italiani* because these news have no signature.

Consequently, the indicated publications, that can be attributed to Bruno Pontecorvo according to my present researches, can be added to the other official academic papers published by Pontecorvo in the examined period.

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⁽⁴⁾ *I miei articoli di divulgazione scientifica non erano firmati Lucio Minori e apparivano con uno pseudonimo che più non ricordo.* See [1], Chapt. IX, p. 18.

⁽⁵⁾ All the articles having the characteristics indicated in the Sergio De Benedetti’s memoirs were published on Saturday, with the only exception of the article published on Wednesday 03 May 1939, but this can be explained observing that the previous Saturday (29 April 1939) there was no scientific article published.

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