

# A Bridge between Hungary and Argentina: László József Bíró's Life and Achievements

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*"Discovery consists of looking  
at the same thing as everyone else  
and thinking something different."<sup>1</sup>  
(Albert Szent-Györgyi)*

You may not know the name Ladislao José Bíró (in Hungarian Bíró László József), but you certainly know his most famous invention: the ballpoint pen. He never received a PhD or even a university degree, as painting and inventing took up all his creative energy. He kept working on new inventions until the day he died in 1985 in Buenos Aires. László Bíró is one of the many 'science celebrities' who we Hungarians love to be proud of, but only in the usual way: after they have become famous abroad, and after they have died.

In general, the lack of any conflict between Hungary and Argentina, the good feeling between the people of the two countries are important facts that provide a good basis for relations. If somebody mentions Argentina in Hungary, people mostly think of tango, football, wine, steak and pampas. This shows that Hungarian people have a good general picture of Argentina, but there is also a lack of information about its history, its cultural heritage and about the most important connecting threads between the two countries. That is why in my study first I would like to give a general outline about the most important meeting points between Argentina and Hungary. My main aim is to present one of the most important inventors who can be a key figure of the cultural relations between the two countries: the inventor László József Bíró. His name is known worldwide of his most famous invention, the ballpoint pen, which keeps his surname alive as biro-pen or birome. Even though his invention and his name are widely known, his life and his other achievements are unfamiliar not only in Hungary, but in Europe, too. László József Bíró, as it says in his biography, was Hungarian–Argentinian, so his life-work is a significant bridge between the two countries which can connect the two distant states.

## General Information about Argentina

Argentina shares the Southern Cone of South America with its neighbour, Chile to the west, and is bordered by Bolivia and Paraguay to the north, Brazil to the northeast, Uruguay and

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<sup>1</sup> Attributed to Albert Szent-Györgyi, *Bridging the Present and the Future* 1985, 14.



the South Atlantic Ocean to the east, and the Drake Passage to the south. The Argentine Republic is the eighth-largest country in the world with a territory of 766,890 km<sup>2</sup>, and the second largest in Latin America. The total population of the country is 43,418,000 and it is the third largest populated South American country.<sup>2</sup> Compared to Hungary, Argentina is approximately eight times larger, whereas its population is only four times bigger. While the nominal GDP of Argentina in 2015 reached 629.6 billion U.S. dollars, in Hungary it was 121.7 billion dollars.<sup>3</sup>

Table 1  
*Export and import rates between Hungary and Argentina in 2016*

	<b>Export</b>	<b>Import</b>
<b>Hungary</b>	47.1 million USD to Argentina (0.05% of the total export of Hungary)	13.9 million USD from Argentina (0.02% of the total import of Hungary)
<b>Argentina</b>	9.6 million USD to Hungary (0.02% of the total export of Argentina)	149.5 million USD from Hungary (0.26% of the total import of Argentina)

*Source:* Compilation of the author based on Global Edge s. a.

The geographical distance and the considerable difference in size greatly contributed to the fact that the two countries have not had continuously intensive contacts in the field of politics, economy and culture. The first official interstate relations were established in 1870 with an economic and trade agreement. After World War II, the countries renewed their diplomatic relations and these ties have been uninterrupted since 1949.<sup>4</sup> Hungary's current "Southern Opening" strategy seeks to strengthen relations with Latin American countries and find new markets for Hungarian companies. Its aim is to encourage bilateral trade, mutual investments (especially in agriculture and pharmaceuticals), and to strengthen cooperation in science, technology and education.<sup>5</sup> From this point of view Argentina can be an important partner, which is demonstrated by an Agreement on Economic Cooperation signed by the two governments in 2013.<sup>6</sup> Export and import rates are not yet significant though (see Table 1). Comparing the countries as trade partners, Argentina is the 68<sup>th</sup> of Hungary, the country's main Latin American partners at present are Mexico, Brazil and Chile. For Argentina, Hungary is the 100<sup>th</sup>, well behind Spain, Germany, Switzerland and the Netherlands.<sup>7</sup>

## Hungarians in Argentina

Despite the great distance, the two countries have developed close cultural ties mostly based on the Hungarian minorities living in Argentina. Until today the strong and well-organised Hungarian community in Argentina has meant an important bridge between

<sup>2</sup> United Nations s. a.

<sup>3</sup> IHS: Country Risk Profile 2016.

<sup>4</sup> Ministry of Foreign Affairs and Trade s. a.

<sup>5</sup> Ministry of Foreign Affairs and Trade 2016.

<sup>6</sup> Government Decree 2013.

<sup>7</sup> Global Edge s. a.

the two countries. Today, there are approximately 40,000 to 50,000 people of Hungarian descent living in Argentina, mostly in Buenos Aires.<sup>8</sup> Most of them arrived in the three main emigration waves: before World War I, between the two World Wars, and after World War II. In small numbers Hungarians arrived even after the Hungarian Revolution of 1956.<sup>9</sup> Generally the Hungarian people assimilated easily and became useful members of the society; they were open to Argentine culture, learned the language, and established good relationships with the white Argentine elite. There are still nineteen Hungarian associations and four registered Hungarian religious communities throughout the country.<sup>10</sup>

It was in the 18<sup>th</sup> century when the first Hungarians – Jesuit priests – arrived in the territory that is today Argentina. After the failure of the Hungarian Revolution of 1848, a few dozen Hungarian officers and nobles fled to Argentina. The most famous among them were János Csetz, the founder of the Argentine National Military Academy (Colegio Militar de la Nación) and Alexander Asboth, who served as the United States Ambassador to Argentina.<sup>11</sup>

In the late 19<sup>th</sup> century, small groups of Hungarian people started to arrive in Latin America and in Argentina because of free lands and agricultural opportunities, but before World War I only a small community lived here.<sup>12</sup> There are various estimates on the approximate overall size of the Hungarian immigration to Argentina, but they show huge discrepancies, ranging between 3,000–14,000 Hungarians. The reason for this vagueness can partially be explained by the Treaty of Trianon of 1920, when two-thirds of Hungary was partitioned among its neighbours and the inhabitants became de facto citizens of Romania, Czechoslovakia, Yugoslavia and Austria and they obtained documentation from these countries, even though they were ethnically Hungarian.<sup>13</sup>

The immigrant groups arriving in this period were heterogeneous, and usually lived in poverty in the countryside or in the slums of Buenos Aires. Political emigrants, mainly leftists, and Hungarian Jews, arrived from the 1930s.<sup>14</sup> The next significant Hungarian immigrant groups came after World War II, fleeing mostly from the Soviets invasion. These immigrants were mainly members of the middle class, the military, bureaucrats, university professors, physicians, artists, scientists, gendarmes, diplomats, engineers, writers and jurists. The newly arrived undertook the intense cultural activity, and sparkling intellectual life was born in their adopted land, the effects of which are still apparent today.<sup>15</sup> Their assimilation was seemingly delayed in some respects, they maintained their language, formed their own institutions and cultural groups. Due to the fact that no significant new immigrant groups arrived after the Hungarian Revolution of 1956, the community subsists entirely by force of reproduction.

<sup>8</sup> CSIBI 2017.

<sup>9</sup> SZONDI-SERES 2011, 190–192.

<sup>10</sup> ANDERLE 2008, 174–181.

<sup>11</sup> For more on their lives, see Asqui Jorge Kristóf's essay *Aspectos interculturales de la Guerra del Paraguay: El papel de los húngaros en el primer conflicto moderno de América Latina (1864–1870)* published in this book.

<sup>12</sup> ANDERLE 2008, 175.

<sup>13</sup> NÉMETHY KESSERŰ 2012, 3.

<sup>14</sup> ANDERLE 2008, 176.

<sup>15</sup> NAGY 2014, 268–287.

The post-war Hungarian exiles chose Argentina largely because they knew they could not return to their native land in the near future, so they wanted to go as far as possible. Most had spent years in dire conditions in Austrian and Bavarian refugee camps, and strict immigration limits were in effect in many places. The countries of South America, however, accepted displaced persons with almost no preconditions. Argentina offered the most advantageous opportunities, together with a favourable climate, a good standard of living and economic development.<sup>16</sup> The Argentine government's objective was to develop the economy through newcomers who could contribute to society. In 1946, the government of President Juan Perón published the First Five-Year Plan, which authorised an annual immigration of 50,000 persons, giving priority to farmers, fishermen, technicians and specialised workers.<sup>17</sup> The enormous European refugee camps represented another valuable source of man-power for the country. Argentines still refer to their country as a "crisol de razas" (crucible of races), or melting pot.

Nowadays in Argentina, especially in the capital the members of an active Hungarian community keep their traditions that contain around 300 families. The *Argentínai Magyar Hírlap* is published online. In addition, Hungarian language instruction, scouts, congregational and social life, a library, a vocational theatre and folk dance groups still flourish, and make a decisive impact on the life of the Hungarian community. The most important Hungarian institutions are the Hungária Club cultural centre, the Catholic Centre (Mindszentynum), and the Zrínyi Ifjúsági Kör (ZIK) youth organisation.<sup>18</sup>

In addition, the famous and talented people, who could achieve great success in their new home persist and strengthen the reputation of Hungary, as well. That is why it is important to present their life-work and achievements not just in their first and second home countries but all over the world. The next part of the article therefore intends to describe the life and work of the well-known Hungarian inventor László Bíró, who perfected and patented his invention, the ballpoint pen – also known as biro – after his emigration to Argentina.

## László József Bíró's Life

László Bíró had a very adventurous life, with politics, intrigues, fortunate and unlucky moments. Successes and failures followed throughout his life, but he was never afraid of the fiascos and always went further. As he said it in his biography, he was an extremely curious person who just wanted to solve everyday problems with his inventions.

László Bíró is known as Ladislao José Biro in Spanish-speaking areas, and his biography, written by Hector Zimmermann, was published first in Spanish, in Argentina, with the title, *Una revolución silenciosa* [A Silent Revolution]. In 1975, Tibor Kóródy and Lajos Pálfi translated it into Hungarian, but only an abridged version was published in Hungary under the title *Csendes forradalom* [A Silent Revolution]. Another book, *A végtelen vonal, Legenda a golyóstollról* [The Endless Line: The Legend of the Ballpoint

<sup>16</sup> H. KAKUCSKA 2016, 63–71.

<sup>17</sup> NÉMETHY KESSERŰ 2012, 3.

<sup>18</sup> NÉMETHY KESSERŰ 2012, 2.

Pen] was written by the Hungarian György Moldova in 2001, and was translated into English in 2012 as *Ballpoint: A Tale of Genius and Grit, Perilous Times, and the Invention that Changed the Way We Write*. The book traces the pen's development and the intrigue that accompanied this process. The Hungarian national television released a documentary about the famous inventor in 1995 with the title, *The Silent Revolutionary*. The movie presents the life of László Bíró through interviews for example with his daughter, his grandchildren, the President of the Argentine Association of Inventors, the representative of the Argentine Atomic Research Institute, and the owner of the factory that still fabricates the birome based on the original models. The above mentioned books and the movie were the starting points of my investigation.

László Bíró was born in Budapest on 29 September 1899, in a middle-class Jewish family with the name Schweiger László József. The family name was "Hungarianised" to Bíró in 1905. His father was Mátyás Bíró, a dentist, but he made research about a water-fountain pen, so probably László inherited the inventor skills from his father and the idea for the development of a writing tool came from him. László had an elder brother, György Bíró, who participated in the invention of the ballpoint, too. László Bíró married Erzsébet Schick, and from their marriage one daughter, Mariana Bíró was born.<sup>19</sup>

László Bíró's activity was far more varied than being limited to one profession. He was an inventor, a painter and a journalist. "I studied medicine, I did car racing, I was a graphologist, I did research on biology, I was an insurance clerk, I was in cargo shipping, I was a painter, and I was a journalist, a book publisher, a sculptor and an inventor. To tell the truth, my profession was not to have a specific field of expertise."<sup>20</sup>

His father was a dentist, and his brother also went to medical school. So his family expected that László would choose the same profession. He started the school, but he was not interested in medicine, he just did research on hypnotisation. According to his biography, after a few experiments he lost interest in it and the strict system of the medical school did not fit him, so he left the school.<sup>21</sup> During this period, he worked on different devices. His first registered invention was the "water-fountain pen", no details are known about it. The second patent was a washing machine in 1930, but it was not a great success, probably it did not function well. The next invention did not succeed either, but his electromagnetic transmitting device exceeded his age, and later the concept was used in the Japanese railway system. According to his daughter, once she asked her father why he did not put more effort in promoting his invention and he answered: the world was not prepared for it.<sup>22</sup>

He did not give up and never accepted the word "impossible". He had a practical view, and his ideas came from everyday problems. According to Bíró: "Maybe it is in my genes. A man does what he has to do, in the order of nature, but an innovator must have a great fantasy, good perceptive capabilities, courage and perseverance. He has to risk failure, because the future is always uncertain. One thing is for sure: a real inventor considers failure as a basis for a new challenge, and he has to preserve his personal fantasy, which happens to be his real driving force."<sup>23</sup>

<sup>19</sup> Bíró 1975.

<sup>20</sup> Bíró 1975, 77.

<sup>21</sup> Bíró 1975, 78.

<sup>22</sup> *Bíró László emlékkiállítás* 2015.

<sup>23</sup> *Ibid.*

According to Bíró, he was working as a customs administrator, which meant a good living, and he could afford a Bugatti sports car to race, even before he could drive. After a few weeks of practice, however, he drove in a race and, according to his biography, he won. This experience inspired him to find a way to drive without using the clutch. The invention got Bíró and a friend to Berlin in his car, although nobody believed it. Bíró presented his invention to General Motors in Berlin. They saw possibilities and offered Bíró a contract with monthly payment. The agreement also had a negative part that the inventor failed to notice though. Bíró always thought of himself as an inventor and artist, and he had little knowledge of economics, law and business. This deficiency caused him serious problems, and this was not the last time Bíró had patent-related problems. The contract with General Motors contained no information about the beginning date for production or the number of gear-shifts to be produced. It was only later that Bíró and his partner realised General Motors did not want to produce his invention, because the company had another kind of development; they just wanted to prevent the competition from getting hold of the technology.<sup>24</sup>

It is important to describe the milieu which influenced Bíró's achievements. László Bíró lived in the period when Budapest was one of the important cultural centres of Europe. The cafés and bars were the intellectual meeting places where the writers, artists and inventors gathered. His favourite café was the Japán (Japan) on Liszt Ferenc tér.<sup>25</sup> Bíró always highlighted how important this period was in his life. In these clubs he met some of the most famous artists and journalists, like Ferenc Molnár, Jenő Heltai, Zsigmond Móricz, Dezső Kosztolányi. In these places he did not only make friendship with famous people, but he also experienced the emigration flow of part of the Hungarian intellectual elite for the first time. From them he got the idea and the advice to leave Hungary before the war begins.<sup>26</sup> While Bíró worked as a journalist, he worked on mechanical inventions, too. He edited the *Hongrie–Magyarország–Hungary* art magazine and worked as a journalist for the weekly paper *Előre*. He was not an outstanding journalist, but this period inspired him to return to the improvement of writing instruments, and to perfect the ballpoint pen.

## The Story of the Ballpoint Pen

According to Bíró, he was inspired to invent a new type of pen when as a journalist wanted to write something down quickly but his fountain pen failed to work. He became so angry that he decided to solve this problem. On one occasion while he was watching the printing machine in the printing house, he realised this rotary method could be used for the pen, too. This was the moment when László discovered the key technique for the new pen, but the road to the invention was long and hard.<sup>27</sup>

Bíró saw the chance for the emigration in his new invention, and he was justified in the coming years. From the beginning of this period, he started to work intensively on the ballpoint pen. As the international political situation escalated, and the atrocities and

<sup>24</sup> MOLDOVA 2001, 19–22.

<sup>25</sup> BISHOP 2014.

<sup>26</sup> BÍRÓ 1975.

<sup>27</sup> BÍRÓ 1975.

measures intensified against the Jewish people in Hungary, László Bíró decided to leave the country. In order to get money and a visa, he made greater efforts to perfect his new invention. Although he did not manage to finish it in Hungary, the tool helped him to leave Hungary first for France, and a little bit later to emigrate from Europe to his new home, Argentina. From 1935, it was more and more difficult to get a visa, but some fortunate encounters helped him in the hardest times, too.

First in 1938 László Bíró accidentally met a woman in his brother's consulting-room who was just about to get married in Argentina to a Hungarian entrepreneur living in Buenos Aires. László Bíró showed his invention to Mária Pogány, and the woman saw an opportunity in the new type of pen. They agreed to form a common firm in Argentina and share proceeds from the sale. Bíró did not attach too much importance to this meeting at that moment, still this represented a key moment in his life.<sup>28</sup>

Another chance meeting in Yugoslavia, where Bíró had gone to negotiate with a potential business partner, also led him to South America. General Agustín P. Justo,<sup>29</sup> a former president of Argentina, glimpsed the ballpoint pen while staying in the same hotel. He invited Bíró to settle down in the South American country.<sup>30</sup>

It is essential to present another important person in László Bíró's life, Andor Goy.<sup>31</sup> He was an entrepreneur in Budapest who dealt with typewriters. He became an important partner in Budapest because he agreed to finance, help and participate in the improvement of the ballpoint pen, but later their relations deteriorated and Goy even went to court for the patent rights.

Finally, on 29 December 1938 Bíró left Hungary as a member of the migration flow which departed due to the imminent war. Bíró made this step in the thought that he would never return to his home country. He had to act rather quickly, because the government was about to make a regulation which prohibited the export of Hungarian intellectual products and this new law was to come into force on 1 January 1939. Bíró first went to Paris, and he continued to work on the ballpoint pen in the Ewelco Company but the production of the ballpoint pen was soon overshadowed by preparations for war. The beginning of World War II made Bíró's situation vulnerable in Paris. To be able to stay in France, he had to cooperate with the government and even participated in inventing tools for military purposes. He worked on a chemical compound which could not be extinguished by water and spread quickly when ejected from an aircraft. He did not finish this invention, and hastily searched for the opportunity to leave Europe with his family.<sup>32</sup> The Argentine contacts came to his mind and, with the help of Mária Pogány, he left Paris for Barcelona, en route

<sup>28</sup> MOLDOVA 2001, 35.

<sup>29</sup> President of Argentina from 1932–1938. During his presidency, he had to make progress on the problems relating to the Great Depression, that is why he tried to establish economic and trade agreements with European countries, too.

<sup>30</sup> Bíró 1975, 34.

<sup>31</sup> On 25 April 1938 László Bíró presented his fountain pen at the Royal Hungarian Patent Court. Bíró agreed with Goy in the patent and manufacturing rights, which meant that Goy and his partners had the exclusive right for production and marketing in Hungary, Germany, Switzerland, Poland, and France with the Ewelco factory, in exchange, they shared the profit. Goy did not receive a share or patent rights, because finally the new pen became so different from the earlier prototypes. MOLDOVA 2001, 42.

<sup>32</sup> Bíró 1975, 138.



to Buenos Aires. With his friend János György Meyne,<sup>33</sup> Bíró arrived in Barcelona on 13 May 1940; and they reached South America in August.<sup>34</sup> He was a member of the third big Hungarian migration flow which arrived in Argentina during World War II.

In Argentina Bíró and the Lángs (Mária Pogány and her husband) founded the Biro South America Ltd. to sell the patent rights of the ballpoint pen. Bíró's life confirms that there are no friends in business. In this case it turned out that Bíró was not a businessman, and because he was also in a vulnerable situation, he signed a disadvantageous contract with the couple. According to the agreement, Bíró received only one third of the profit, and the partners gave a promise to help Bíró's family to escape from Hungary.<sup>35</sup> But later he had to give up more to be able to see his family again. Arguing that the costs of the fares were high, the Lángs helped on the condition that Bíró gave up half of his share. Naturally he agreed on these terms.<sup>36</sup> Despite the fact that Bíró did not profit as much as he could have from his most famous invention because of his own business mistakes and the greedy people around him, he confessed that without the Láng family, and their persistence, he would probably have given it up.<sup>37</sup>

It was a long and exhausting process to find the adequate technique and materials. Eventually the basis of the pen was the technique used in printing by which a rotary cylinder ensured continuous and uniform application of the ink that could be adapted for use in a pen. The ink flew continuously to the paper by a slender tube filled with ink with a small ball bearing at the end.<sup>38</sup> This method required precision-made ball bearings, and it is interesting to note that it took years to find out that the prototypes did not work perfectly because of the imperfect balls. Finally, a Swedish company was able to produce to the standard required by László Bíró. Another problem was to produce ink of suitable viscosity. From the beginning, his brother as a chemist helped Bíró to develop the suitable component and by the beginning of the 1940s, they had found it.

According to the patent rules, despite the fact that there are similar inventions already registered, the inventor who finishes the functioning tool owns the patent and the manufacturing rights.<sup>39</sup> During this time, there were other inventors who experimented with new types of pens, that were similar to some extent to the Biro, but László Bíró was the first one, who could make a functioning tool. In the summer of 1943, the first commercial models were made and the pen has been manufactured in large numbers for the public since 1945. It was first marketed in Argentina under the name of *Eterpen*.<sup>40</sup>

<sup>33</sup> The word "birome" came from the conjunction of the surnames Biro and Meyne. Clarín 2013.

<sup>34</sup> Bíró 1975, 140, 151.

<sup>35</sup> MOLDOVA 2001, 101.

<sup>36</sup> Bíró 1975, 169.

<sup>37</sup> Bíró 1975, 167.

<sup>38</sup> OMIKK s. a.

<sup>39</sup> MOLDOVA 2001, 41.

<sup>40</sup> McGOOGAN 2016.



## The Effects of the Ballpoint Pen

*“Have you got a biro I can borrow?  
I’d like to write your name  
On the palm of my hand, on the walls of the hall  
The roof of the house, right across the land  
So when the sun comes up tomorrow  
It’ll look to this side of the hard-bitten planet  
Like a big yellow button with your name written on it.”  
(Have You Got a Biro I Can Borrow? By Clive James)*

Bíró invented other things but his name will always be associated with the ballpoint pen and his invention keeps his name alive. “I just became part of the ball pen” wrote in his biography.<sup>41</sup> The ballpoint pen spread all over the world because it was easier to use than the fountain-pen, it was reliable, it did not leak, and did not need special maintenance. It can be made from cheap materials and sold at a low price and because of that, it is available to everyone.

Because of World War II, each country searched for new inventions that could be useful during the battles. The first major buyer of the newly created pen was the Royal Air Force in 1944 that ordered 30,000 of the tools, because they worked at high altitudes unlike traditional fountain pens. After the war, another battle was just beginning: the war among the manufacturers across the world. For example, the pen entered commercial production just after the war in Great Britain.<sup>42</sup> In France Marcel Bich (later shortened his name to Bic) licensed the ballpoint pen from Bíró. He started manufacturing his pens according to Bíró’s design and established the BIC Company which until today is the biggest corporation. Its pens are now recognised across the world, because it could develop an industrial process for manufacturing ballpoint pens that lowered the unit cost dramatically, so it could release the cheapest tools.<sup>43</sup> In Argentina the Sylvapen became the biggest Argentine pen manufacturing company and László Bíró returned partly to the ballpoint pen when accepted the offer of the company to give his name to the product, and supervise the quality control.<sup>44</sup> Bíró let the ballpoint pen live its own life and turned his interest to other inventions, but this opportunity probably compensated him for the earlier disappointments and struggles.

## His Other Inventions

After he perfected the ballpoint pen, he started to deal with new ideas. One of them was a kind of rudimentary deodorant, which used the ballpoint pen technology. The aim was to produce a luxury perfume, which doses the liquid evenly. With his business partner Meyne, they chose the American market to sell this product, so they entrusted a businessman

<sup>41</sup> KÖVÁRI 1995.

<sup>42</sup> MCGOOGAN 2016.

<sup>43</sup> Our Heritage, Your Passion s. a.

<sup>44</sup> MOLDOVA 2001, 188.

in New York to organise the firm there and control the production. Just before they put the product on the market, however, Bíró realised that one part was designed incorrectly and it could not be launched. Bíró did not have the capital to finance re-design. He lost not just the capital of his firm, but had to sell three-quarters of his stake in the Birome factory to the Lángs to compensate for the losses.<sup>45</sup>

The failure did not dampen his enthusiasm, and Bíró started to work on another invention. This was a clock shaped device which could constantly measure the blood pressure of a person. But for the improving and launching the tools, Bíró had to ask for financial support from the Lángs. Mária Pogány gave a loan to him in exchange for the deposit of his shares. Bíró trusted in his new invention and the woman's cordiality did not evoke mistrust either. When Bíró had to leave Argentina on business, Mária Pogány offered to postpone repayment until he returned to Buenos Aires. Bíró took this gesture as a sign of friendship, but Pogány wanted to exercise the shareholders' rights in the interim as collateral. He never regained his shares. The device kept his name ("biro" in English, "birome" in Spanish), but actually the inventor had no more stake in its success. This is how László Bíró lost his shares in the company which was created for his invention, at the time when the ballpoint pen started to spread globally. This time nobody knew that the inventor actually did not participate in the manufacturing and its success. Bíró did not become a millionaire, but never had financial problems in his life because of his other inventions. From his biography we know that he felt disappointment because of the ballpoint pen but he was able to close this part of his life and continued his inventor career.<sup>46</sup>

## László Bíró's Legacy

The ballpoint pen reformed handwriting. Today it is popular to talk about the decline of handwriting because of the electronic devices and typing, but it is interesting that a few people date the beginning of this decline to the appearance of the ballpoint pen. According to them, the new tool has changed the way of writing because the ink flows differently from ballpoint pens and it requires more pressure, making it more natural to separate letters (in print) than to join them together (in cursive). That is why some people saw the new pen as responsible for the decline of formal handwriting, especially cursive writing.<sup>47</sup> According to Bíró's daughter, the inventor replied to the criticism that people are writing from their heart, and they are always grateful if they can express their thoughts and feelings easily.

It is hard to collect all the inventions he worked on during his life. His legacy is far more varied than it is known. For example he patented a procedure to produce phenolic resins, another one for enhancing the strength of steel bars, he invented the inviolable lock and the clinical thermograph.<sup>48</sup> Until his death on 24 November 1985, he worked together with the Atomic Energy Commission of Argentina on projects related to the separation of gases in molecular and isotope systems.<sup>49</sup>

<sup>45</sup> Bíró 1975, 208–209.

<sup>46</sup> MOLDOVA 2001, 153.

<sup>47</sup> NELSON 2016.

<sup>48</sup> László Bíró memorial exhibition 2015. OSZK.

<sup>49</sup> Fundación Biro s. a.

Argentina considers László Bíró its native citizen and he is also highly respected in the Hungarian community in Buenos Aires. In his life he tried to help Hungarians arriving in Argentina, and until today his daughter is an honoured member of the community who participates in the most important Hungarian events in Buenos Aires. In memory of his father, Mariana Bíró founded the Fundación Biro which is a non-profit institution with the aim to form and stimulate activities and projects related to inventiveness and education. To commemorate Bíró's life and inventions, the Inventors' Day in Argentina is celebrated on his birthday, on 29 September.<sup>50</sup> The collection of some of the original models of birome was donated by the Biro Foundation to be exhibited at the entrance of the *Centro Argentino de Ingenieros* in Buenos Aires.<sup>51</sup> Articles are still published about Bíró's works in several world-famous media, for example in *BBC* or in *The Telegraph*. On his 117th birthday, in 2016, Google honoured the Hungarian genius and the ballpoint pen with a front-page doodle on its search page.<sup>52</sup>

In his Argentinian years, Bíró was very active and in addition to his inventions, his paintings keep his name alive. In the 1930s, Bíró painted his first pictures and he was quite talented, as he could make a living by selling his works in Budapest. The motivation for painting remained with him throughout his life and in his new home-country he could also sell paintings. He kept saying that he used the same creativity and special perspective as in the inventing procedure, as he could see and show the world in a different way.<sup>53</sup>

## Summary

László Bíró probably never returned to Hungary, although in Moldova's book there is a story about a journey to Budapest. It might only be the writer's imagination, because firstly, in the autobiography of Bíró there is no reference to it and secondly, during the Communist era in Hungary the emigrated, successful people were not welcome. Probably this is the reason why it took so many years to publish his book in Budapest and why little attention was paid to his legacy. However, the fall of the Socialist bloc brought about a change: his daughter returned to Hungary several times to speak at exhibitions and to build his father's fame. The first significant exhibition in Hungary was organised in 1996 at the National Technical Museum, with the cooperation of Mariana Bíró to introduce the life and inventions of László Bíró.<sup>54</sup> On the 30<sup>th</sup> anniversary of the inventor's death in 2015, the Hungarian pavilion at the Expo Milano commemorated him with a memorial exhibition. After that the exhibition was displayed in the National Széchényi Library and in different parts of Hungary, for example, in Balatonfüred and in Hévíz.<sup>55</sup> The last time when Mariann Bíró visited Hungary was in June 2017 when she opened a temporary exhibition commemorating the life and work of Bíró at The Hungarian Museum of Science, Technology and Transport hosted by

<sup>50</sup> Foro Argentino de Inventores s. a.

<sup>51</sup> REGGINI s. a.

<sup>52</sup> SHEPHERD 2016.

<sup>53</sup> Bíró 1975.

<sup>54</sup> VAMOS 1996, 281–285.

<sup>55</sup> Híradó 2017.

the Ábrahám Ganz Foundry Collection.<sup>56</sup> This time a ceremony was also held on which occasion the memorial tablet which preserves László Bíró's name at his last Hungarian address in Cimbalom Street, Budapest was renewed.<sup>57</sup>

Another link between the two countries is that in 2016 the László Bíró Prize was created together with the Embassy of Argentina in Budapest to intensify the relations in honour of the great Hungarian–Argentinian genius and inventor.<sup>58</sup> The first prize was given to László Scholz,<sup>59</sup> for his work and achievements in the field of Argentinian–Hungarian cultural relations, especially in terms of literary science.<sup>60</sup> In 2017, the award was presented to the owners of the Hungarian Polo Club, Dr György Ivanics and his family, who do a lot for the promotion of horse polo in Hungary, which is considered Argentina's national sport.<sup>61</sup> Furthermore there are plans to name streets after the famous inventor in Budapest in the future, and to establish a permanent exhibition in Hungary.

His most famous invention may even have helped save Bíró's life and that of his family, it gave him his new home and made his name alive, as “birome, biro or biropen”. Biro was not the first to come up with the idea of a ballpoint pen but he was the first to perfect it. His creativity, enthusiasm, different way of thinking and courage could make a change in the world and reformed writing. It made it easier for people to communicate with each other, to express their thoughts by making the tool available for every social stratum. Now we find a ballpoint pen in every bag and on every table, even if the computers and electronic devices start to take over the role of handwriting. Still, it is hard to imagine our lives without it.

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<sup>56</sup> Exhibition 2017.

<sup>57</sup> At all of the events, Argentina was represented by its Ambassador to highlight and strengthen the importance of the inventor in the bilateral relations between the two countries.

<sup>58</sup> Diplomata 2017.

<sup>59</sup> László Scholz is a literary historian, and professor at the Spanish Department of Eötvös Loránd University in Budapest. For example he worked on the Hungarian edition of José Ortega y Gasset's oeuvre, translated the works of the Argentine writer, Jorge Luis Borges and published the short history of Spanish–American literature.

<sup>60</sup> Kulturport 2016.

<sup>61</sup> Kisalföld 2017.

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