

Krzysztof Ciesielski *

ON SOME DETAILS OF STEFAN BANACH'S LIFE

In this volume there is presented a paper „On some facts connected with Stefan Banach“. That paper perhaps will be interesting first of all for Polish readers. However, the editor of the volume assumed that some parts of it could interest also non-Polish speaking readers and thus suggested the author to present this information in English more widely than simply in the English summary.

In this paper we present the results of the investigations made by the author. Different sources mention different dates of Banach's birth and different information about schools he attended. Here we definitely answer these questions on the base of historical documents. Also, some other details of Banach's childhood are given. In addition we present here also other information, perhaps less known to non-Polish readers.

We do not consider here the problems connected with the Scottish Café and the Scottish Book and their present state. Many facts about the famous Scottish Café, the Scottish Book and the cemetery where Banach was buried can be found in the articles written by S. Ulam and M. Kac in English edition of the Scottish Book (edited by R. D. Mauldin) and two articles by the author published in *The Mathematical Intelligencer* (vol.10).

Banach was born on 30th March, 1892. However, many authorities give the date 20th March. To mention the most important of them, the date 20th March is given in the famous article by Hugo Steinhaus published in „*Wiadomości Matematyczne*“ in 1961 and the Great Encyclopedia of Polish Scientific Publishers. Nevertheless, many important sources publish the date 30th March. In particular, these are *Encyclopaedia Britannica*, the Soviet mathematical encyclopedia and the mathematical calendar of „*The Mathematical Intelligencer*“. Also, this date can be found on Banach's grave. How to make sure that just this date is correct?

* Uniwersytet Jagielloński, Kraków .

After a long investigation the author managed to find the parish register with Banach's birth and christening recorded. This was a difficult task, as in the end of XIX century there were many parishes in Kraków. It turned out that Banach was born in the 'St. Lazarus' Hospital, under the St. Philip's parish. It was on 1892, March 30. He was baptised on 3rd April. In the parish register there is noted only one name, i.e. Stefan. We find there also the name of Banach's mother. Banach was a son of Katarzyna Banach. It is an important note, as some authors give another information. Let us recall here that Banach's parents were not married. Stefan Greczek was the father of Stefan Banach. Banach did not know his mother at all. He was brought up by a washer-woman, Mrs. Płowa (and her daughter) since his very early childhood. Some sources give the information that Banach was not the surname of Stefan's mother, but the surname of just this washer-woman. According to the parish register we make sure that this version is false.

By the way, in the St. Philip's parish there is no parish register of that time. The earliest one preserved in the parish archives dates from 1895. However, the copy of the register from 1892 is kept in the City Register's Office. Note that it is almost impossible to get any information from there as the clerks give information only to the closest family of a particular person. We write „almost impossible“, not „impossible“ because, as one can see, the author succeeded to get the required information.

It is interesting how the mistake about the date of birth of Banach could have been made. Probably – but this is only the hypothesis of the author – the mistake appeared first in the Steinhaus' article (it could even be a misprint in the proof). Perhaps in no earlier source the date 20 March is given. The article by Steinhaus is cited in many papers and notes and thus the mistake from this article is repeated.

As was mentioned above, Banach's early childhood was rather untypical. There is not much known about his early years. Nevertheless, there are some papers about that, especially written by some persons who knew Banach as a young boy. Let us mention here one problem: different authorities give different information about what school Banach attended. Some authors write about the Secondary School Nr. I (the oldest such school in Poland, founded in 1588, then named St. Anna's School), some write about School Nr.IV, some write about the School Nr. IV as a branch of the School Nr. I.

We are not going to present here this problem in details as it would be interesting rather for Polish readers, first of all the citizens of Kraków. Note only that after the precise investigation it became clear that Banach attended the School Nr. IV. The mistake was probably made because in the building where the pupils of this school had lessons (so called „Götz House“) there was really a branch of the School Nr. I. However, in 1901 the new school numbered IV was created. To this school there were settled mainly the pupils from the School Nr.I who learned just in the Götz House. Also, the Götz House became the seat of the new school. Nevertheless, the event took place one year before Banach started attending secondary school.

A very serious mistake can be found in the XVth edition of Encyclopaedia Britannica. The note about Banach starts as follows:

Banach, Stefan (b. March 30, 1892, Kraków, Austria-Hungary – d. Aug. 31, 1945, Lvov, Ukrainian S.S.R), Soviet mathematician who founded modern functional analysis and...

In the following sentences of the note the city of Lvov is mentioned twice as a place where Banach worked, there is no remark about Poland.

Probably the mistake was pointed out to the editors, because a small change was made in the next edition. The beginning of the corrected note is as follows:

Banach, Stefan (b. March 30, 1892, Kraków, Pol. – d. Aug. 31, 1945, Lvov, Ukrainian S.S.R), mathematician who founded modern functional analysis and...

The rest of information was not changed.

After such information a reader of Encyclopaedia can find out that Banach was born in a mysterious country „Pol.“, but he was a Soviet mathematician, because he worked in Lvov, which was, according to the note, a Soviet city.

Note that XVth edition of Encyclopaedia Britannica introduces Albert Einstein as „a German-American physicist“, and Alfred Tarski: „a Polish-born American mathematician“ (after the comparison we guess that Tarski was born in Poland but he became a mathematician in the USA, which is certainly completely false). Euler, who spent most of his life in Russia, is introduced as „a Swiss mathematician and physicist“.

Of course we are not going to prove here that Banach was Polish – it would be useless to prove the obvious things. Nevertheless, let us recall here some historical events. During the whole 19th century up to 1918 Polish territory was taken by Russia, Austria-Hungary and Germany. The life of people was very hard except from the area taken by Austria-Hungary, which contained also Kraków and Lwów. For instance, lessons at schools and lectures at universities were given in Polish language there.

Banach spent his childhood in Kraków, then started studying in the Lwów Technical University but after the beginning of the First World War he came back to Kraków. After the war he did not plan to be a professional mathematician, but was accidentally „discovered“ by Steinhaus in one of Kraków’s park. Steinhaus was walking in the park and suddenly heard the words „Lebesgue integral“. He was very surprised and started talking to two young men, which were Stefan Banach and Otto Nikodym. Steinhaus realized their mathematical knowledge was large and during the talk communicated them a problem he was just working on. A few days later Banach came to Steinhaus and showed him a solution. Steinhaus recognized Banach’s great mathematical talent and arranged a job for him at the Technical University of Lwów. As a result Banach, who never graduated from any university, became a university teacher, very quickly got his Ph. D. and became a full professor. He worked in Lwów, a city which after the war was joined back to Poland. In 1939 Lwów was gained by the Soviet Union, in 1941 by Germany and in 1944 by the Soviet Union again. After the end of the war it turned out that Lwów would be taken by the Soviet Union definitively, so Banach was going to move to Kraków where he was offered a Chair at the Jagiellonian University, but he died on 31st August, 1945. According to this he spent in the Soviet Union about three years.

His language, family etc. was Polish, he worked and taught in Poland. There is a story that before the First World War Banach was offered a position in the USA by an eminent mathematician. He asked about the salary and then he was shown a cheque with his name and a number „1“ written. „Please, write after this ‘1’ as many ‘0’s as you want“ he was told. „Oh, this is too small price for leaving Poland“ he answered. Note also that before the Second World War the city of Lwów was never Ukrainian or Soviet.

It is important that in Soviet mathematical encyclopedias Banach is introduced as a Polish mathematician.

Let us point out here that in these encyclopedias there are other mistakes. In the Soviet biographical dictionary of mathematicians „The Great Mathematicians“ there is written that Greczek was a real Banach’s surname and that Banach graduated from the Technical University of Lwów. As was mentioned above, „Greczek“ was really the surname of Banach’s father, but Banach never used this surname and did not have this surname in any document. Also, one of the most characteristic points of Banach’s mathematical career was that Banach was self-educated and in fact did not study, in particular he did not graduated from any university.

Let us finish with a not widely known story connected with Banach. There is many well known stories about Banach, as he had a very interesting personality. We shall mention here an event which happened many years after Banach’s death. During the International Congress of Mathematicians in Warsaw in 1983 some mathematicians (not from Poland) discovered that one of Warsaw’s streets is named after Banach. They wanted very much to see this street, so they went there. When they came to the destination they realized that there was a large arēa without any building. Then they commented: „This is not Banach street, but Banach space“.

Received: 25th Sept. 1992

Reviewed by: dr Zofia Pawlikowska-Brożek