In Memoriam János Erőd

A few years ago the research of the Turán-type reverses of the classic Bernstein inequality got suddenly a new impulse. I first learned about a new result obtained by Norman Levenberg jointly with Jevgeni Poletsky when I received and read their article in 2003. Independently from that, half a year later my colleague József Szabados and Tamás Erdélyi, a Hungarian mathematician living in America, began their own research of these topics. At the beginning of 2004 I had the opportunity to listen to their lectures in the Alfréd Rényi Institute of Mathematics. When you often hear about a subject, you also begin to think about it yourself. So I too began to get involved in that subject. When we composed our articles [6,7,8], we typed them, and in order to get the exact quotation from the literature we read the article of János Erőd that was written in Hungarian in 1939 [1]. While reading that article we were surprised to realize that several of our 21st century results can be found in this old paper, and the basic ideas and methods for further developments were also outlined there in some form. (For more details on the actual mathematical results, and for the contents of the article and its modern interpretation, see [7].)

But why did he not continue his work? Why have we not heard about the further results of János Erőd? It was easy to verify that no other mathematical works were published by him either before or after that time. That I found rather strange. While we proceeded with the analyzing of the contents of his papers and withdrew from publication the results already covered by him giving a proper form to our results that were really new, the question kept bothering me: Who was this author who had been so far ahead of us so long time ago? Why did only (in my opinion) a minor part of his results - related to the inverse Markov constant taken at real interval - remained publicly known among the researchers of the present in spite of the indications of contemporary referring journals, such as Zentralblatt, Jahrbuch über die Fortschritte der Mathematik? His paper was quoted by several people, often also by authors not speaking Hungarian, who obviously took over the quotation but everywhere the reference was made only to the case of interval. Therefore, I first did not take notice of the rest of the paper either, although I have found and made already a photocopy of it after having read Levenbergs' paper.

I have asked everybody, I have made inquiries. Several people seemed to remember the name but nobody knew anything more specific about him. Professor János Surányi first did not want to tell me his blurred memories concerning the fate of János Erőd but to my encouragement he told me after all: „I have two contradictory memories which I remember, but I do not know whether any of them are true. According to one of them I remember that he died during the war perhaps as an inmate of a forced labour camp or in the Holocaust. According to the other memory he entered the Church, and disappeared in that way." As I found out later, these memories were not contradictory and on the merits both are true.

At last my friend, Dr. Tamás Gergely has found an item on the Internet from the publication „Veszprém Megyei Életrajzi Lexikon" (Biographical Encyclopeadia of Veszprém County, Hungary) [VII], then from the journal „Hetek" (Weeks) [V]. That is how I have found the memories of János Erőd. Also, I succeeded finding dr. Ervin Bán in the phone directory. He was a true friend of János Erőd and has written several commemorating articles about him. I managed to speak to him, but he declined the opportunity of a personal meeting, because he had already been seriously ill. Shortly after that he also died. I asked Dr. Gyula Szombathy, retired Calvinist pastor to look for memories of János Erőd in the circles of the Reformed Church: somewhat later he furnished me with a lot of really useful information and documents [a]. He also found the only surviving family member of János Erőd, his sister named Karmen, whom he also spoke to in the town of Gyöngyös. But even his sister could not provide a photo of him: the only two known

photos of János Erőd were preserved by the deservedly well-known journal KöMaL [4] (Mathematical and Physical Journal for Secondary Schools, Vol. IX, May-June 1933, Page VII and Vol. X, May-June 1934, Page VIII) in the photo-album of those who proved to be most successful in solving problems in the course of the annual competition for points. These two small photos of poor quality from his secondary-school years show us the features of this young man of tragic fate.

According to the entry in the Reformed Church's birth register in Gyöngyös János then still under the name Ehrlich confirmed in 1930. He went to the primary and secondary school in Gyöngyös: he passed his final examination in „Koháry István Reálgymnasium", a secondary school with a specialization in the sciences. In the upper classes of the gymnasium he was already eminent in mathematics. We can find his name very often among the problem solvers of the annual national competition for points of KöMaL not only in mathematics but also in physics and descriptive geometry (then treated separately). Thanks to that diligent work his photos, already under the name János Erőd, were published in 1932-33 and 1933-1934 in the annual photo-albums of successful problem-solvers of KöMaL [4].

János Erőd was born in Gyöngyös on 30th November, 1916. His father was a lawyer of Jewish origin, who together with his family converted to the Calvinist faith in the 1920s. His father did not change his name to a Hungarian one; he continued using his family name „Ehrlich" while he also served as a presbyter in the local Reformed Church community. All members of the family, his wife and also his three children, took an active part in the congregation. According to pastor-editor János Bottyán [I] their youngest daughter Márta had been a „creative correspondent" of the ecclesiastic journal titled „Református Jövő" (Reformed Future). She followed the example of her brother not only in that regard but also in mathematics; her photo is also shown in the annual photo-album of the best problem solvers in Vol. XIV, 1937-38 of KöMaL [4].

The parents and their daughter Márta were carried off from Gyöngyös to Auschwitz in 1944, from where they did not return. The eldest daughter, Karmen, Mrs. Árpád Vécsey, stayed in Budapest, so she survived. After the war she returned to Gyöngyös, where she still lives. In 2006 Gyula Szombathy also visited the then 94 years old woman in her Gyöngyös flat, when he could also talk with her about her family and her brother János. She mentioned that János had shown an extraordinarily wide range of knowledge; he was interested in everything related to science. Although he earned his doctoral degree in mathematics, he was well-read in Hungarian literature as well as in world literature and also in philosophy. He knew the works of all the great thinkers. He spoke German and French at the top level. His other passion was his love for his family.

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After his excellent final examination he enrolled in the faculty of philosophy. We know as well as nothing about his university studies. Where might he have met Pál Turán who was living then from private teaching? Pál Turán was still a young but creative researcher who worked together also with several members of the talented generation of his time. He was the person who had begun to examine that natural, so to say, basic question: what would be the lowest estimate for the oscillation of a polynomial, i.e. the maximum norm of its derivate, if we assume that the maximum norm of this polynomial is 1 on the unit interval or on the unit disk, and also all its roots are placed in the same set? Pál Turán's paper written in German was published in the 1939 volume of Compositio Mathematica [5] but János Erőd carried on these studies already in that same year, and his paper was published in Hungarian also in 1939 in the Matematikai és Fizikai Lapok (Mathematical and Physical Pages) [1]. Why in Hungarian? Perhaps because this was also his doctoral thesis so it must have been technically easier. Indeed, his doctoral dissertation

preserved in the University Library is nothing more than an offprint of this paper with the inscription of doctoral dissertation on its cover. Turán and Erőd mutually refer to each other; they obviously were in contact during their work. We can assume, perhaps, that Pál Turán might have been the (informal but in essence the real) doctoral thesis advisor of János Erőd, and thus we consider him a student of Turán.

Yet, neither the dissertation, nor the paper reveals anything about the personal connection between them. Was it dangerous? At first glance, on the basis of the dry quotations, Turán also could have been an author known only from his papers and never seen by János Erőd. I do not know whether a consultant was formally required for a doctoral dissertation, and if yes, then who could have been the official consultant of János Erőd. Maybe the minutes or some other record of his doctoral proceedings will be found some day and then we will be able to better know the background of this very laconic and restrained quoting, too. Today we know for sure only that with this paper, comprising 28 pages and very rich in content and ideas, János Erőd earned a doctoral degree in mathematics at the Faculty of Philosophy of the Pázmány Péter University Budapest at the young age of 23. According to János Bottyán [I] he was the only Calvinist pastor who had a doctoral degree in mathematics

However, because of his Jewish origin János Erőd could not receive a position as teacher, although Ervin Bán remarks [IV, V, VI], that later he might have taught in the ecclesiastical gymnasium in Pápa, when one of the teachers of mathematics had been called up for military service, as there was war. Ervin Bán also mentions that his pupils called him „buner"....[IV]. János Bottyán [I] writes that after János Erőd had earned his doctoral degree in mathematics at the age of 23 he was offered an assistant professorship at a German university, which suggested that he would be declared "Aryan" if he accepted the job: but he refused this offer. It would be interesting to know something more exact about this event, too! Anyway, János Erőd, already doctor by that time, chose another profession under the given circumstances.

Upon the encouragement of Tamás Esze, pastor of the Reformed Church in Gyöngyös at that time he applied for admission to the Reformed Theology Faculty of Pápa, where he gained admission [I, IV]. His prior studies of philosophy were acknowledged at the Faculty of Theology, so he could finish the four year theology studies in a shortened form between 1939 and 1942. Thereafter he passed his first qualifying examination in 1943 then the second one in 1944 with excellent results. Thus, Dr. János Erőd became a pastor of the Reformed Church.

János Bottyán writes [I] that János Erőd did not feel any special calling for being a pastor at the beginning, he was rather lead by his mission as a teacher, he tried to achieve his pedagogical goals in this way. Later on, however, he began to be interested also in theology, and e.g. in his correspondence with Ervin Bán he already uses arguments which show his being a pastor [A]. It is sure that he was a Christian with a deep faith, who in his letters, his thinking and his morals measured the cruel facts of his age but also the whole culture and every idea against Jesus Christ and the Gospel.

In autumn, 1941 Ervin Bán, several years younger, his fellow student [ii] for half a year at the Theology Faculty of the Reformed Church in Pápa, was perhaps searching for his calling in a similar way: but then their ways separated because Ervin Bán was admitted to the university and chose the profession of a teacher. Their friendship however survived, and they continued their correspondence. János Erőd composed his thoughts to him very open-mindedly, and looked after him quite as an elder brother, advised him and carried on discussions with him, and also reprimanded him [A]. The only known letter of János Erőd was preserved also by Ervin Bán [A], but even this single letter tells a lot about his personality and way of thinking. Ervin Bán became

later a true care-taker of his memory; he recorded the figure of his friend in his writings also for the succeeding generations.

In Pápa he was in general liked by his fellow-students of theology, he was respected for his knowledge and modesty. One of his classmates, Miss Magda Pongrácz, remembered the „Doctor" as a small and thin youth, who was obviously called so by his fellow-students on the basis of his doctoral degree in mathematics [I]. Some of his theology colleagues however demonstrated against him because of his Jewish origin. Ervin Bán wrote about this that he had to leave the college before finishing his studies due to personal conflicts [V]. János Bottyán serves also with more details [I]: he describes that his professors proposed János Erőd to leave Pápa for a short time, until the furor is over. At this time only his pastor's examination was left for him to pass which he did in Pápa in a couple of months in February 1943 [I]. Szombathy [a] underlines that this proves that his leave was not a disciplinary measure at all but a good advice from his professors. This happened in 1942, and the professors must have thought it prudent to remove him from the focus of hatred. About this period Ervin Bán wrote that "After a short period of unemployment he became first assistant minister in a village then the director of the boy's orphanage run by the Reformed Church in Komárom" [VI]. Anyway it can be observed in the further development of his fate that he never lost connection with his church, and the Reformed Church considered him always its member in some way, it looked after him, supplied him with tasks and job. He passed his second qualifying examination on the 20th of September, 1944. That required the completion of a one year practice before the exam.

János Erőd lived in Pápa not in a student hostel but with a simple family called Nemes. Here János fell in love with the daughter of this Calvinist family, named Jolánka, and according to Magda Pongrácz [I], Jolánka also loved János phanatically. Many of his fellow-students were surprised at their love because though Jolánka was a believer and a warm-hearted girl she finished only four classes of higher elementary school. Later Jolánka became engaged by the scientist János Erőd. However the laws of that time discriminated against the Jews and did not allow their marriage. Jolánka therefore decided to convert to the Jewish faith so that she could marry János, but she thought that later she would return to the Calvinist faith at the appropriate time. Sándor Olé, the pastor of the local Calvinist congregation of that time, accepted this decision with understanding, and even offered his help. In the meantime, however, an even more severe law took effect, which prohibited also the conversion of Christians to the Jewish faith [I].

In 1944 the parents of János and also his younger sister were deported to Auschwitz. As a volunteer worker of the aid organisation „Good Shepherd Mission" rescuing Jews János himself also strived to save the persecuted. He was not able however to help his beloved.

A young man belonging to the Arrow-Cross Party was living in an apartment.sharing the common courtyard with the Nemes family He wanted to take Jolánka to Germany because in his opinion everybody was a traitor who did not leave this country. (Szombathy remarked [a]: It is very difficult to find out whether he also fell in love with Jolánka. Quoting Magda Pongrácz, the one-time classmate of János Erőd János Bottyán refutes this assumption referring to the witness of the days around his arrest [I]....) When János Erőd returned to Pápa at the beginning of 1945, Magda Pongrátz said him uneasy: „János, you are here on the worst place, here everybody knows you!" [I]. But János asked back where he should then go, as he was even better known in Gyöngyös, ... [I]. The young couple could not remain unobserved: they were reported, and both had been arrested by the Arrow-Cross men. The charge was brought up against János Erőd that he made contacts with the advancing Soviet army through radio. During the house search at the Nemes family neither a radio, nor other documents of evidence were found: the charge must have been quite baseless. Theology teacher, Dr. Dezső Trócsányi was summoned to the army post to

prove the identity of János Erőd. He found the „accused" in a horrifying state; bloody meat clung in shreds from his face. The theology professor protested against this inhumane treatment but it was futile. János was executed in February 1945 together with his fiancée, most likely in the barrack of Pápa. Their graves are unknown but retired college director, Zsolt Kövy found an entry made in 1956 in the register of deaths of the town Pápa which documents the death of Jolánka Nemes on 15th February 1945; she had been considered missing until 1956.

Ervin Bán characterized János Erőd's personality in the following way [V]: „He had strange views. On the war he said: This is how the struggle of two pagan powers becomes a crusade" [A]. „Christian order, culture, society, science are all empty slogans, they are all mere inventions of worldly people. Such Christianity has nothing to do with Christ and the gospel" [A]. „His religiosity was a special kind of asceticism. Calvinist yet something different ... He did not thunder in his personal communications ... He was clever and civilized. He knew all the great personalities of culture and their writings. The real reason behind his murder is this: that world (and society) was not able to tolerate such a man" [IV, V].

Ervin Bán writes as well: „It is reported that his church was preserving his memory" [IV]. In contrary to that Zsolt Kövy wrote: „He would deserve that the Church, the College, the Theology and the town of Pápa would preserve his memory more truly" [III]. Therefore Zsolt Kövy also initiated to place a memorial tablet on the wall of the Gymnasium and College of the Reformed Church commemorating this great scholar who died young as a martyr.

Zsolt Kövy wrote of him: „in his theological conception the living faith in Christ dominated. He criticized the past, ingrained views. He could have built up a promising future with his talent, modesty, and persistent striving for truth" [VIII].

Also Ervin Bán continues his path of life in thought, when he writes about him [V]: „He was a highly educated man, a scholar, so to say. In spite of his being a mathematician, he knew the literature with a profoundness embarrassing teachers specialized in Hungarian literature, and knew philosophy excellently. He spoke French and German. (But also Hungarian!) If he had survived, he could have been an excellence of his church or education or the world of science" [V].

The question „What he could have been", a question quite understandable humanly, is however always unhistorical. Gyula Szombathy remarks in brackets [a], that two names were placed next to each other in the yearbook of the 1941/42 academic year of the Theology Faculty of the Reformed Church Pápa under Class IV: Next to the name of Dr. János Erőd there is the name of Lajos Gulyás who was executed in 1957, and died just as innocently, as a victim of the blind reprisal after the revolution of 1956. Could he lived his further life according to his talent in subsequent years had he not been caught by the crazy bloodshed of the Arrow-Cross men almost in the last days? Every massacre, every hatred is unreasonable and irrational: it is really incalculable how his personal fate would have evolved in the midst of the following insanities of our terrible 20th century history. He himself did not have illusions even concerning the expectable changes. In spite of his young age and persecuted position he looked at the future in a very real way [VI]. In his person there were however present all the opportunities without doubt which the care-takers of his memory mention: he could have had further remarkable works in all three fields

Unfortunately beyond the teacher Ervin Bán and the authors of the church referred to above, we mathematicians have not been engaged in respecting his memory. Even after a thorough search I have not found any trace of a commemoration of him within the field of

mathematics. This is all the more surprising because his paper, even if its content was partly forgotten, was quoted several times – I have found 24 quotations [3] –, i.e. he has remained a „quoted author" up to now. Due to it's intrinsic scientific value, his entire paper, which was available only in Hungarian up to now, was translated to English and published in the archive section of the East Journal on Approximations in October 2006 [2]. The number of papers referring to him is still increasing, his subject seems to revive. Perhaps, we have just begun to understand him. In scientific sense we can state already with certainty: his thoughts, his work survived the destruction even better than our endeavor to preserve his memory.

Budapest, 20th July 2007

Szilárd Révész

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http://www.mek.iif.hu/porta/szint/egyeb/lexikon/veszplex/html.

VIII.   Zsolt Kövy: "For whom the bells toll", Theológiai Szemle, 2005/3., 177-178.

Correspondence

A.   Letter by János Erőd (copy) – written to Ervin Bán, undated. *(Dr. Ervin Bán gave a copy to Dr. Zsolt Kövy, from him Dr. Gyula Szombathy and from him Szilárd Révész received a copy).*

B.   A postcard written by Ervin Bán to Zsolt Kövy (copy), 28th August, 2002

C.   Letters of Zsolt Kövy to Ervin Bán (copy), 23rd March, 2005 and 5th Jan. 2001.

D.   Letters of Zsolt Kövy written to Gyula Szombathy (copy), dated on 14/09/2005, 03/10/2005, and 25/10/2005.

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i.   Certificates of the theological studies of János Erőd (copy, József Hudi, head of the Archive, Pápa, 20/04/2005).

ii.   Yearbooks of the College of Pápa of the Transdanubian Church District of the Reformed Church, study years: 1939-40, 1940-41, 1941-42.

iii.   Birth registers of the Reformed Church Congregation in Gyöngyös.

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a)   Dr. Gyula Szombathy: History of the martyr's death of Dr. János Erőd, mathematician and pastor of the Reformed Church, Manuscript, Budapest, 2006.

Photos of János Erőd, as preserved in the albums of KöMaL:

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