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Scientific Couples in Hungary

I. Couples of the Past

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Abstract:
When the volume "*Creative Couples in Science*" was published in 1996, many of us thought the issues of the topic were answered for posterity.[1] Thirteen years later we find that the interest in the topic has not slackened but has risen in the last years. Aurora Forum at Stanford University has announced quarterly talks to scientific couples. This paper will show that the Hungarian public has never really opposed this kind of co-operation but institutional by-laws and practices sometimes did.
For the present paper I have chosen three famous Hungarian couples as case studies from the 20th century. In a next paper I wish to present the lives and works of three more couples, all of the 20th century and still active.

Keywords: co-operative scientific couples, Hungarian couples, case studies

We would look in vain for scientific co-operation on equal basis among 19th-century couples as women's university or college studies were made possible, with some restrictions, as late as by a royal decree from 1895 only.

Vilma Hugonnay - Vince Wartha

There was one exception: Vilma Hugonnay (Nagytétény, 1847-Budapest, 1922), a count's 5th child out of six, decided to become a medical doctor in the 19th century. This decision of hers was strengthened by the fact that her mother was a TB patient, and her children were allowed to see her but for 10 minutes a day. However, as was the practice in 19th-century noble families, Vilma married a nobleman and gave birth to three children. Her husband, György Szilassy was much older than her. As it happened many times, he took to drinking, and lost most of his fortune. In 1869 she learnt that women's university studies were possible in Switzerland. She obtained her husband's consent, however, without being granted the necessary financial support. Nevertheless, she relentlessly pursued her studies in Zurich, and obtained her M.D.-s degree in 1879, at the age of 37.

[1] Pycior, Helena M.-Slack, Nancy G.- Abir-Am, Pnina G. (Eds.): Creative Couples in the Sciences. Rutgers University Press, 1996.

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She was congratulated on her achievement by contemporary ladies as follows: "Our century full of the noble noise of work is counting its last years. … One of the noblest apostolic ideas agitating our century is the recognition of the female gender's spiritual vocation."[2] She was working as surgeon at a Zurich hospital for ten years, and returned to Hungary in 1890. Here she had to face a serious problem. The then minister of culture and education – considered a progressive personality of the Hungarian administration of the epoch – denied her the license of practising medical work. In fact, her degree was accepted in Hungary but in 1896, after medical studies had been granted to women. The minister, who finally signed the acceptance, was Gyula Wlassich, who – among others – introduced civil marriages. She wrote about this as follows: "I thank you for the honour you extended by this celebration, not to me, a humble representant of the idea, but to the noble idea itself: the idea of the scientific equality of women. The fortunate conditions brought me, by chance, to the limelight in realizing the epoch-making institution of the present minister of Culture, his sublime-thinking Excellency Wlassits. This luck does not make me conceited but urges me to further activity."[3] While waiting for the acceptance she did not remain passive but started working as midwife. Moreover, she started educating midwives by publishing a book related to their work. This book was an adaptation, to Hungarian conditions, of Anna Fischer-Dückelmann's work "The woman as family doctor".[4] Vilma Hugonnay was lucky to find a supporting and renowned second husband, Vince Wartha, in 1887. They had a common daughter born in 1888.

Vince Wartha's name was made memorable in wide circles by the re-invention of the Gubbio (Italy) metallic glaze for ceramics. Moreover, he ceded the procedure of the so-called eosin glaze free to the Zsolnay china factory which gained international fame with the products manufactured by the process. Wartha had first studied at the Polytechnical School in Buda, then went to Switzerland and studied, what we call today chemical technology, at Zurich Eidgenössische Technische Hochschule. After two years he obtained a degree of "technical chemist". On his return to Budapest, he applied for, and obtained a job as assistant professor at the predecessor of the Technical University (1864). The primitive conditions at the University did not satisfy his ambitions, so he soon returned, this time to Heidelberg, Germany, where he had the opportunity of working with the epoch's most famous chemistry professors. It is there that he obtained his degree as doctor of chemistry (1865). From there he went again to Zurich to obtain a job first as assistant professor, then as "private docent". After the Compromise between Austria and Hungary he finally returned home (1867).

At the age of 26 (1970) he was appointed professor of chemical technology in Budapest. He was, in fact, the first professor of this branch of science in the country. He had great merits in pointing out the new seat of the Technical University at a then uninhabited site, where it can be found till today. He headed the Department of Chemical Technology founded in 1870 for 42 years. From among his functions in public life his activity as rector of the Technical University is worth mentioning. In addition, he was secretary general of the Association for Natural Sciences, president of the Association for Applied Arts and vice-president of the Hungarian Academy of Sciences. He was a prolific author: nearly 700 publications of his are

[2] Gedeon, Mihályné – Tomcsányi, Mórné: Handwritten letter of 27 May 1897. SOMKL XI/1-D. 65.19.2.
[3] Handwritten letter by Vilma Hugonnay of May 27, 1897. SOMKL 65.19.1.5.
[4] Kenyeres, Ágnes (Ed.-in-chief): Magyar Életrajzi Lexikon (Hungarian Biographical Encyclopedy). Vol. I, Akadémiai Kiadó, Budapest, 756-757.

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recorded.[5] Actually, he was rector when the construction of the Technical University was finished.[6]

His first wife was Sofia Heussy, daughter of a Swiss university professor. The marriage was not a happy one. She never could get accustomed to Hungarian conditions and spent her time mostly in her native country. She died in 1886. Only one year later the widower Wartha married the widow Vilma. Their common life was happy and well-balanced. According to one of Wartha"s contemporaries: "If it should be proven by an example that a marriage in mature years could be really happy, you could safely quote this marriage."[7] The birth of their common daughter Vilma (1888) meant the top of Wartha's happiness. At the time he was 44. He was very tolerant towards his wife's medical profession, and saw her to her patients on her night visits. On her part, she helped him with his work in editing the periodical "Bulletin of Natural Sciences" (Természet-tudományi Közlöny). This had a column called "Mailbox", where she answered the questions related to health and medicine. When Wartha was elected rector of the Technical University, his wife assumed the task of leading the ladies' commission of the university cantine. Both of them considered it important to popularise science.[8] Although their professions were different, they gave a respectable example of co-operation.
It was a serious blow to Wartha, when his adored daughter unexpectedly died of pneumonia or nephritis (1908). Soon afterwards he himself fell seriously ill (1910). (He had, most probably, Parkinson's disease). First he went for a year's leave but in 1912 he had to give up all his offices at the university and in scientific public life. His wife lovingly nursed him all the time till his death. He died in full possession of his mental capabilities.

Mária Kliburszky-Vogl and Béla Kliburszky

In my second example the heroine's life span embraces practically the whole 20th century. Mária Kliburszky-Vogl (Rákospalota, 1912-Budapest, 1996) was a geochemist. She was born in a small place near Budapest (today a suburb of the capital) in 1912 as daughter of a paleontologist-geologist of the Royal Hungarian Institute of Geology. Thus she, so-to-say, "inherited" her interest in sciences, particularly in geology, from home. She started her studies in 1930 at Budapest University of Sciences, where she graduated from, as a secondary school teacher in mathematics, physics and chemistry in 1935. She was conferred a doctor's degree from the same university in 1937 but there chemistry was her main subject. Her doctoral thesis was about the electric resistance of potassium- and sodium-containing mixed glasses.

[5] Szabadváry, Ferenc - Szőkefalvi Nagy, Zoltán: A kémia története Magyarországon. (History of Chemistry Akadémiai Kiadó, 1973, 203. - Móra, László: Wartha Vince, a hazai kémiai technológia megalapítója. (Vince Wartha, founder of domestic chemical technology). Budapest, 1967. – Móra, László: Wartha Vince, a hazai kémiai technológia megalapítója (1844-1914). (Vince Wartha, founder of domestic chemical technology, 1844-1914).
[6] Jámbor, Jules: Histoire, organisation et fonctionnement de l'Université Technique Joseph de Budapest. (History, organisation and functioning of the Technical University Joseph of Budapest.) Edited by Vince Wartha. Imprimerie „Pester Lloyd", Budapest, 1898.
[7] Ilosvay, Lajos: Commemoration of Vince Wartha, regular member. (Wartha Vince r. tag emlékezete). Magyar Tudományos Akadémia, Budapest, Vol XX, No. 17. 1930, 20.
[8] Wartha, Vince: A víz szerepe a Föld életében (The role of water in the Earth's life). K.M. Természettudományi Társulat, Budapest, 22 p.

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She started working at the Institute of Geology, her workplace for life, in 1936. She had started as a researcher of the Laboratory of Mineral Chemistry, then was appointed Head of the Section of Geochemistry, later Head of Division controlling the whole material testing activity of the Institute until her retirement in 1975. She was keen on acquiring new instruments which she needed for improving the methods necessary for her research.
A great achievement of hers was the early introduction of differential thermal analysis in Hungary. Together with her (second) husband Béla Kliburszky they constructed an instrument for this kind of analysis, which was the first one of its kind in the country. Her thesis for achieving the degree of "Doctor of the Academy" was about the role of differential thermal analysis in mineralogy and in the search for geological raw materials. She was also a pioneer in introducing geostatistical and computerized methods in a project on regional research of rare metals in Hungary. After introducing X-ray diffractometry and X-ray spectography in domestic geochemistry, a laboratory of geo-microbiology and one of organic geochemistry were brought into being upon her initiative. Her work on the microbial decomposition of silicon containing rocks was much ahead of her time. She was the one who, with her colleagues, analysed the meteorite found in a small place (Kaba) in Hungary.

For her scientific achievements she was elected corresponding member of the Hungarian Academy of Sciences in 1973, and full member in 1985. [9] She was actually the fifth woman that achieved this high scientific rank. On the occasion of her 75th birthday she was interviewed by a reporter of one of the leading Hungarian dailies, and she gave a very correct, matter-of-fact and modest summary of her scientific activities, speaking a bit of her family, too.[10]
About her husband, Béla Kliburszky, I could find but very few data. These merely stated that the couple Kliburszky constructed an instrument for differential thermal analysis in common work.[11] The apparatus the couple developed was a simple one, put together from small instruments. It allowed measurements of satisfactory accuracy but was difficult to handle. At any rate, they published an article in German language about the instrument.[12]
Béla Kliburszky was a universal electrotechnician of great knowledge. His father was a well-known physician in the Budapest district Óbuda, so Béla had the opportunity to study at different universities of European fame. However, finally he did not graduate from any of them. From 1955 he had a part-time job at the Research Laboratory of Geochemistry of the Hungarian Academy of Sciences, where he was working until 1974 as chief technical advisor. His first wife was very ill, and he kept nursing her for years. He married Mária Vogl after his wife's death only. He was her second husband. He published many papers, with co-authors, in the journals of the trade.

[9] Brezsnyánszky, Károly: Kliburszkyné Vogl Mária (1912-1996). (Mária Kliburszky-Vogl, 1912-1996). Magyar Tudomány, 1997, *7,* 871-873.
[10] Árulkodó nyomelemek. (Tale-telling trace elements). Magyar Nemzet, August 1, 1987.
[11] The little I managed to learn about him is mostly due to the courtesy of Teréz Póka from the Institute of Geology, for which I would like to express my deepest gratitude.
[12] Kliburszkyné Vogl, Mária – Kliburszky, Béla: Neue grundsätzliche Gesichtspunkte zur Theorie und Praxis der Differentialthermoanalyse. (New conceptual aspects to the theory and practice of differential thermal analysis.) Acta Geologica, 1954.

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Gertrúd Szabolcsi and Bruno F. Straub

My third example deals with a couple of biochemists. The male partner, Bruno F. Straub (1914-1996) was, according to his autobiography[13], born in Nagyvárad (at the time Hungary, today Oradea, Rumania) in 1914. His father a was teacher at a teachers' training school, first in Nagyvárad, then in Szeged. In 1931 Brunó matriculated at the Faculty of Medicine of the Szeged University of Sciences. During his studies he was working at the University's Institute of Medical Chemistry with the Nobel-prize winner Albert Szent-Györgyi, who persuaded him to switch to chemistry. He was conferred his university doctor's degree in chemistry in 1936. Thereafter he spent nearly two years in Cambridge (England) as grant holder. In 1940 he married a chemist, who did research at the National Experimental Institute of grains and flour. They had two daughters, one became an M. D., the other one an archivist. The wife died in 1967, and he got re-married five years later.
During World War II he did military service for shorter periods, finally was captured by the American army (1945), and returned from captivity after some months. Still in 1941 he became university "private docent" at the Faculty of Medicine of the Szeged University of Sciences.

His incredibly versatile and variegated career can be roughly divided into four parts. The first decade was devoted to science, to laboratory work, and brought important results, first in the field of cell respiration (for which Szent-Györgyi was awarded the Nobel-prize). There he succeeded in defining diaphorase as a flavine-enzyme, which enzyme bears his name till today (Straub-diaphorase). Then, again in co-operation with Szent-Györgyi he turned to research of muscle proteins. His greatest achievement in this field was the discovery of the contractile muscle protein actin (1941).
In 1946 he was elected correspondent, and in 1949 – only three years later – full member of the Hungarian Academy of Sciences.[14]

As soon as at the age of 31 he took over Szentgyörgyi's Department at Szeged University. There began the second phase of his career, that of the school-founder. Although still doing some research, his main concern was teaching, directing the Institute and educating the future generation. From 1948 on he took over Szentgyörgyi's Department at Budapest University of Medicine, where he was working for over two decades. From 1961 he headed the Institute of Biochemistry (later Enzymology) of the Hungarian Academy of Sciences until his retirement. For 7 years (from 1970) he was Director General of the Szeged Centre of Biochemistry.
Although he did not really like teaching, he is said to have been a brilliant professor. His second textbook on Biochemistry was translated to a number of languages. His short textbooks on General and Inorganic Chemistry, and Organic Chemistry written for students of medicine were equally successful.

[13] Straub, F. Brunó: Önéletrajz. (Autobiography.) Manuscript. A Magyar Tudományos Akadémia levéltára, (Archives of the Hungarian Academy of Sciences), 1979.
[14] Straub, Ferenc Brunó: Tudományos Életrajz. (Scientific biography.) Manuscript. A Magyar Tudományos Akadémia levéltára. (Archives of the Hungarian Academy of Sciences). (Without date).

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The third phase of his career, which overlaps in time the second one and embraces 3 decades, is that of the science organizer and science politician. As soon as in 1949, on the occasion of the Academy's reorganization, he participated – as one of the leaders – in adopting some blameable resolutions. After the revolution of 1956 he backed out, for a while, of public life. In 1962 he was elected Secretary of the Academy's Class of Biology, and from this time on he played a decisive role in the country's scientific public life. As vice-president of the Academy he did much for making biological sciences universally recognized in Hungary. His greatest deed was, however, the bringing into being of the Szeged Centre of Biology assuming all the work and difficulties this brought about.

His participation in foreign institutions of science policy was equally outstanding. As president of the International Atomic Energy Agency he took an active part in bringing into being the stopping of atomic warfare. He participated in the Pugwash movement, and was, for one cycle, president of ICSU (International Council of Scientific Unions).
Finally, as a fourth phase, he assumed some tasks that were more or less independent of science. Thus, he was appointed president of the (Hungarian) Council of Environment Protection, which office he held even after retirement.

Last but not least, we have to mention that for the last one and a half year before the democratic transformation of the country, he accepted being Head of the State.[15]
Professor Straub was highly educated and an interesting character. Moreover, he could speak excellently. No wonder that he was popular among journalists. He was often interviewed about the Szeged Centre of Biology, which he had brought into being[16, 17, 18]. He sometimes wrote articles in the leading dailies, like the one about the reorganisation of the Academy of Sciences after World War II.[19]

When the widower Brunó Straub married again (1972) at the age of 58, he chose – for the purpose – a colleague from his institute, Gertrúd Szabolcsi (1923-1993). (Szabolcsi was her first husbands name). She was nine years younger than him, and was also born in Nagyvárad. At that time, however, the town has already been part of Rumania. She started her university studies in 1945 in Kolozsvár (Cluj, Rumania), after having spent nearly a year in a concentration camp in Germany. In 1947 she came to Budapest, where she continued her studies of physics and chemistry at Budapest University of Sciences, and graduated as chemist in 1949. From 1950 she was working till retirement (1991) at the Institute of Biochemistry of the Hungarian Academy of Sciences. The Institute changed its name and director several times – since 1970 it has been the Institute of Enzymology of the Szeged

[15] Venetianer, Pál: Straub F. Brunó (1914-1996). Magyar Tudomány, 1996, *5*, 613-615.
[16] P.G.P.: A magyar biológiai kutatás fejlődése. Beszélgetés Straub F. Brunó akadémikussal. (Development of the biological research in Hungary. Interview with Brunó F. Straub, member of the Hungaran Academy of Sciences). Népszabadság, 1 August, 1975.
[17] Bóday, Pál: A sejtbiológiai kutatástól a gazdasági felhasználásig. Straub F. Brunó a szegedi központ munkájáról. (From research into cell biology to use in economy. Brunó F. Straub about the work of the Szeged Centre). Magyar Nemzet, 26 November, 1980.
[18] Fehér, Rózsa: Mester és Tanítvány. Beszélgetés Straub F. Brunó akadémikussal. (Master and disciple. Interview with Brunó F. Straub, member of the Hungarian Academy of Sciences.)
[19] Straub F. Brunó: Az Akadémia tegnap és ma. (The Academy yesterday and today.) Népszabadság, 30 November 1969.

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Centre of Biology. She was a pioneer of her research theme she kept working on for a lifetime. It was about the relationship of the structure and function of enzymes with special regard to the effects of chemical modification on the spatial structures and activities of enzymes. Another important result of her work was detecting the partial proteolysis of the enzyme aldolase. In 1967 she was elected correspondent, in 1979 full member of the Hungarian Academy of Sciences. For nearly two decades she was deputy director of her institute.[20, 21]

Like her second husband, she also obtained many distinctions, and played an active part in scientific public life. She was the first president of the Hungarian Society of Biochemistry. She was working on a book on enzymatic analysis she edited and partly wrote, when she fell seriously ill. However, confined to the bed, and later to a wheel-chair she managed to finish the book intended for the wide public of biotechnologists.[22]

Although professor Straub and his wife were working at the same institute, theirs was not a real scientific partnership. Of course, as director and deputy director they obviously often had to discuss problems of the institute. However, no common scientific work of theirs has ever been published, and their interests in biochemistry were also wide apart.

Concluding remarks

Which conclusion can be drawn, with respect to scientific co-operation, from three case studies?

I think that any generalization would be daring and unfounded, the "sample" being too small.

What can be seen is that all the three couples lived in harmony, which is – in my opinion – a *conditio sine qua non*, for successful scientific work.

In all the three couples the partners were middle-aged when they entered a *second* marriage. It might be reassuring for many people that young age and first love are not a precondition of lasting happiness.

Real scientific co-operation could be seen with the Kliburszky couple only, perhaps also with the Straub couple but to a lesser extent.

With the couple Hugonnay-Wartha the man, and with the couple Kliburszky the woman had a higher rank in scientific hierarchy. This obviously did not affect their mutual respect and the success of their work – a fact which is reassuring.

With the couple Straub the partners stood at about the same level in scientific hierarchy, although the lady achieved the respective ranks later.

The conclusion might be, after all, that a good many examples of co-operative scientific couples from Hungary should be analyzed to be able to draw any general conclusion. Why I stressed the word Hungarian? Well, I think that in any other country, even in Central Europe, conditions might be so much different that any comparison would seem forced.

[20] Friedrich, Péter: Szabolcsi Gertrúd (1923-1993). (Gertrúd Szabolcsi, 1923-1993).
[21] Markó, László (Ed.-in-chief): Szabolcsi Gertrúd. (Gertrúd Sszabolcsi). Új magyar életrajzi lexikon. Helikon Kiadó kft. Vol. VI, 2007, 90.
[22] Szabolcsi Gertrúd (szerk.): Enzimes analízis. (Enzymatic analysis). Akadémiai Kiadó, Budapest, 1991.

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