

THE TWO CHEMISTS WAGNER BY TAMOS

The paper deals with the lives and work of two chemists, the Wagners, father and son. Daniel Wagner (1800-1880) was the first to hold a doctorate in chemistry, which he received in Vienna in 1825. He was also the first to publish a monograph on the topic, *Ueber die Eigenschaften des Wasserstoffs* in 1826. He was a pharmacist in Pest and later a professor of pharmacy. He was also a member of the Hungarian Academy of Sciences. His son, Daniel Wagner (1841-1885), was a chemist and a professor of pharmacy. He was also a member of the Hungarian Academy of Sciences. He was also a member of the Royal Hungarian Academy of Sciences. He was also a member of the Royal Hungarian Academy of Sciences. He was also a member of the Royal Hungarian Academy of Sciences.

ENGLISH SUMMARIES OF THE PAPERS

The first of the two papers is by Daniel Wagner (1800-1880). The first known member of the family was a member of the family. The author gives short biographies of 12 members of the family, including Daniel Wagner (1800-1880), who was a pharmacist and a professor of pharmacy. He was also a member of the Hungarian Academy of Sciences. His son, Daniel Wagner (1841-1885), was a chemist and a professor of pharmacy. He was also a member of the Hungarian Academy of Sciences. He was also a member of the Royal Hungarian Academy of Sciences. He was also a member of the Royal Hungarian Academy of Sciences. He was also a member of the Royal Hungarian Academy of Sciences.

THE TWO CHEMISTS WÁGNER

Éva VÁMOS

The paper deals with the lives and activities of two chemists, the Wágner, father and son. Daniel Wágner (1800-1890) was the first in Hungary to hold a doctor's degree in chemistry, which he acquired in Vienna in 1825. His thesis was about the potassium radical. He soon published a monography on the topic, also containing data on the history of potassium. In 1826 he settled in Pozsony (today Bratislava, Slovakia), where he hired a pharmacy. During his stay there he wrote a comprehensive monography describing, with illustrations, all the medical plants occurring in the 1820 Pharmacopoeia. In 1832 he moved to Pest, where he opened up a pharmacy and ran a chemical laboratory, too. There he carried out the analyses of medicinal waters. An outstanding success of his dealt with the economically important products of Hungary, which was awarded the grand prix of the Hungarian Academy of Sciences. He also founded a chemical factory in 1847. This was, however, showing a permanent deficit until one of his sons, the chemist dr. Jenő Wágner took it over and transformed it into a carbonic acid factory. Later on he gave over the running of the pharmacy as well. During the Revolution and the War of Liberation of 1848-49 he held various posts at the Ministry of Health in order to advocate the cause of pharmacists. He became a highly respected citizen of Pest, obtained many distinctions and was even raised to the status of nobility by the king in 1886.

His fourth son, dr. László Wágner (1841-1888) graduated from the College of Agriculture in Magyaróvár, then was appointed professor at the Department of Agricultural Science and Encyclopedia of Forestry at the Technical University. During his short life he published a number of books on different topics of agriculture and food industry. Most of them were published in Germany, by German publishers. László Wágner was the most successful adherent of Liebig's doctrines in Hungary.

THE ENTZ DYNASTY

Béla ENTZ

The family's descent can be traced back as far as the 18th century. The first known member of the family was a miller in Pápa, Transdanubia. The author gives short biographies of 12 outstanding descendants, out of them 7 were medical doctors, 2 were hydrobiologists, 2 graduated as historians of art and 1 became a horticultural engineer. The first M.D. (Dr. Ferenc Entz Sr.) was the miller's son who, besides running a surgery, was the first to publish a book on the ecological problems of Lake Balaton. His son, Dr. Ferenc Entz Jr. was running a surgery as well and besides, improved grapes, peaches and apples. He founded a private gardening school, the antecedent of today's Budapest Horticultural University. He was elected corresponding member of the Hungarian Academy of Sciences (HAS). His son, Dr. Géza Entz Sr., also an M.D., switched to zoology and discovered the green algae living in symbiosis with protozoa. He was elected ordinary member of HAS. His elder son, Dr. Géza Entz Jr. dealt with hydrobiology and, after teaching at Utrecht University, was appointed director of the recently founded Hungarian Research Institute of Biology in Tihany. His younger brother, Dr. Béla Entz was a pathologist, university professor in Pécs and member of HAS. A cousin of his, Dr. Albert Entz, M.D., was the initiator of the rehabilitative treatment of TB patients. The author of the paper, himself a protistologist and limnologist as well as other four members of the dynasty are still alive, among them the author's son and grandson.

ROLE OF THE BODOKY FAMILY IN THE REGULATION OF WATERWAYS

Klára DÓKA

One of the most famous families in 19-century water regulation in Hungary were the Bodokys of Transylvanian origin. The first engineer of the family of pastors was Mihály Bodoky (1782-1836), who had graduated from the Institutum Geometricum, predecessor of Budapest Technical University, in 1811 and then moved to Gyula (county Békés), where he was elected engineer of the county. His elder son Károly (1814-1868) followed his father in his profession. After his wife's death Mihály married his sister-in-law. Their son, Károly's half-brother Lajos (1833-1885) was the third engineer in the family. His nephew Kálmán (1858-1906) was the last to follow the ancestors' trade. – In county Békés and the neighbouring counties flood prevention and draining work was, owing to local conflicts of interests, co-ordinated by a royal commissioner. In 1820 Mihály Bodoky made a list of the inundation areas along the river Berettyó. However, he was dealing, in the first place, with road building as roads were often led over dikes. After Mihály Bodoky's death his son Károly was entrusted with the job. As most of the engineers in the region, he did not get on well with his boss and went on a 10-month study journey to a number of European countries. His experience taught him that the regulation of waterways could be successful only if it relied on plans carefully elaborated by experts, as well as loans from the state. Slowly, he could achieve part of his goals. After his death Lajos Bodoky took over his work in the region of the three rivers Körös. He graduated from József Technical University and was much better prepared for the job than his father and half-brother had been. First he was elected chief engineer of county Békés, later he was appointed inspector of public building at the Inspectorate of Regulation of the Danube, where a team of excellent engineers achieved much useful work. Lajos Bodoky published quite a few papers and essays, describing his experience. The last member of the dynasty lacked the talent of his ancestors and remained a subordinate engineer at the River Conservancy Board of Gyula. He just helped finishing the great work started by predecessors.

ACTIVITIES OF RUDOLF AND PETER SCHUNK AT ÓBUDA GAS WORKS

Anikó GULYÁS-GÖMÖRI

Óbuda Gas Works was a company, where much was done for the well-being of the workers and employees. A housing colony was built, and several generations of workers that were so lucky to get lodgings in the colony, were staying on and faithfully serving the Works. The same could be also said of some technicians and engineers like those mentioned in the title.

VILMOS ZSIGMONDY'S CONTRIBUTION TO INTRODUCE DOMESTIC WELL-DRILLING TECHNOLOGY TO TECHNICAL LITERATURE

Béla CSATH

Several Hungarian experts of the 19th century dealt with, and wrote about deep-boring. The most important of them was Vilmos Zsigmondy. His then up-to-date work „Mining science with special respect to coal mining” bore the sub-title „Research, drilling and artesian wells”. He published 35 books and articles, respectively, in German and Hungarian papers. In his later years he mainly specialized in giving expertise, mainly on mineral water springs. His work was continued by his nephew.

MIHÁLY KOVÁCS AND THE BEGINNINGS OF CYBERNETICS EDUCATION AT BUDAPEST PIARIST GRAMMAR SCHOOL

Gábor KÉPES

Mihály Kovács (1916-), monk-teacher of Budapest Piarist Grammar School is a school-founding thinker whose former pupils are now working for the most important research institutes of physics and companies of computer technology. As first teacher of cybernetics at Hungarian grammar schools, inventor of the examining machine Didaktomat and an important popularizer of science, he considered it his main goal to make education of physics and computer science true to life. His clubs of nuclear physics and cybernetics were, in the late fifties – simultaneously with the activation of the first Hungarian computers – regarded as extremely up-to-date and epoch-making. The present study gives an insight in his activities and presents, in the first place – from among the logical games built together with his pupils – the cybernetic building set (constructed together with Ferenc Woynarovich), a zero generation relais home computer (computer model) manufactured in series in the sixties.

SEVERAL MEMBERS OF A FAMILY IN THE SERVICE OF MODERN TRAFFIC LÁSZLÓ URBACH (1904-1977), CONSTRUCTOR AND MANUFACTURER OF THE MOTORCYCLE „MÁTRA”

Zsuzsa URBACH

László Urbach, son of a ladies' taylor, was – in his young years – a successful participant in Austrian and Hungarian motorcycle races with one of brothers as companion. His wife was a renowned motorcyclist of the 1920s. In 1930 Urbach purchased the garage, in which he had been employed earlier. Together with the former owner they built the motorcycle *Majláth-Triumph*. Then Urbach acquired the general agency of the most famous motorcycle producing factories. After giving up racing, he started constructing motorcycles and presented, in 1938 and 1939, an own construction each. The latter 100 cm³ small-powered engine was the *Mátra*. Its excentric conic piston proved to be a successful technical innovation. The motorcycle as well as an improved model were both manufactured in series. During fascist regime he had to serve in a forced labour camp but luckily survived. In 1945 he immediately started to rebuild his plant, and manufacturing of motorcycles re-started two years later. In the following 2 years 4-5000 motorcycles were manufactured. In 1949 the plant was nationalized. He never again could establish a plant of his own, and found employment in a pilot plant for motorcycles only for a short time (1956-1961). His further innovations were never implemented and he was even imprisoned for a short time. After many disappointments he died of his third heart infarct.

„WE SHALL GO ON WORKING IN HIS SPIRIT”

Éva FÁBIÁN

It was with the above quotation that the death notice issued – on the occasion of the passing away of the factory's founder, chemical engineer Dr. Emil Wolf (1886-1947) – by the staff of the pharmaceutical factory *Chinoin*, ended. – Having graduated from a university abroad, he returned to Hungary and found employment at the recently established pharmaceutical factory Gedeon Richter. After taking his doctoral degree in Budapest, he went to Germany to work for pharmaceutical factories. On his return he founded, together with a former fellow student and friend, Dr. György Kereszty, a chemical laboratory for the production of pharmaceutical preparations by synthesis. Within 3 years, by 1913, the establishment was turned into the „Chemical Factory Share Company Dr. Kereszty and Dr. Wolf & Co.” Soon they developed some

original patented preparations that could be exported to many countries. During World War I they manufactured antiseptics and even war gases in exchange for considerable government support. From 1921 on Director General Wolf led the factory by himself. Besides a number of preparations developed by the staff, they purchased lots of licences. They were the first in the world to extract vitamin C from green pepper on a large scale, and later they developed its synthesis. During the 30-year period under Dr. Wolf's the leadership the staff, completed with the best Hungarian scientists as external advisers, developed over 150 patented processes for the production of pharmaceutical preparations. In 1944 Dr. Wolf was deported but survived and, from 1945 on, started re-organising his factory. He met with death on a journey abroad in order to re-establish export possibilities. The nationalised factory boomed even during communism and enlarged its production profile by the manufacture of pesticides. Today it is a member of Sanofi Aventis, the pharmaceuticals' manufacturing group No 1 of Europe and No3 of the World.

ACTIVITIES OF THE MECHANICAL ENGINEERS KÁROLY AND FERENC ZIPERNOWSKY AND THEIR ROLE IN HUNGARIAN ELECTRIC INDUSTRY

Ildikó ANTAL

The two engineers mentioned in the title were uncle and nephew. Among the members of the third generation we can find musicians, mainly violinists of high reputation. – Károly Zipernowsky was born in Vienna in 1853 as son of a businessman. One year later the family moved to Budapest. Károly graduated from József Technical University in 1878. He started working for the renowned Ganz factory, where he was entrusted with establishing the electrotechnical branch of the works. Soon he recognised the importance of alternating current generators and developed, partly together with his colleagues Ottó Titusz Bláthy and Miksa Déri, a number of patented processes for their production. He also introduced improvements in the manufacture of incandescent lamps. The 150-HP, steam-engine-driven generator unit presented at the 1883 Vienna exhibition was later used for supplying the lighting of Budapest's main railway station. The team invented a new type of transformer and distributor system of high-voltage electric current. From 1893 on Zipernowsky was Head of the newly established Department for Electrotechnics of Budapest Technical University and was elected member of the Hungarian Academy of Sciences in the same year. – Ferenc Zipernowsky (1883-1957) graduated from József Technical University in 1905. First he was assistant at the Department for Electrotechnics of the University, then was working as engineer for Ganz, designing electric line networks. From 1911 on he took a job with the Stock Co. of Electric and Transport Companies, first as engineer, then as chief engineer and finally as director. A number of power plants and networks in Hungary were established according to his designs and under his leadership. After his interest had turned lighting technology he founded the Station of Lighting Technology in 1927. He was patent holder of a number of inventions related to lighting, and was one of the first to recognise the importance of lighting in architecture.

THE JUHÁSZ DYNASTY AND THE GAMMA FACTORY

Tibor KEMÉNY

The GAMMA factory in Budapest owed its high reputation to the brothers Zoltán and István Juhász. The roots of the family from Upper Northern Hungary can be traced back to mid-18th century. The brothers' father, born in a family of lawyers, studied the law in Budapest, and became a judge of the High Court of Justice. The brothers studied technology, partly abroad and partly in Budapest. One year after its foundation they took over the GAMMA Technical Share Company (1921), then on the brink of ruin. The talented brothers soon had to look for larger premises in the 11th district of Budapest. In the meantime development of new technical devices was continued

steam ahead. The first resounding success was achieved with a gun director, the first analogue computer in Central Europe. This brought many orders, also from abroad and led to the enlargement of the production profile. From 1942 on István Juhász was preparing for peace-time production (mechanical and surveying instruments, photographic cameras, lighters, watchmaker's lathes etc.) In 1943 the brothers parted, Zoltán founded a new company. Near the end of World War II GAMMA was dismantled and a great part of the equipment was transported to Germany. War damage of the factory buildings was considerable, due to bombing and other war activities. The staff incurred great losses as well. István Juhász was imprisoned several times, while his brother emigrated to South America. After the war the (nationalized) factory entered a new epoch of development which lasted till the end of the 80s, when it went bankrupt – owing to the collapse of its eastern markets – and was finally liquidated in the early 90s.

FORMATION OF THE MADERSPACH DYNASTY FROM THE 1600S

Kinga MADERSPACH

The Muderspach ancestors were an old noble family from Upper Rhineland. Their origin can be traced back to the early 13th century. The family fled from the cruelties of the 30-year war to Tirol and became miners. Some members settled in the South of the then Hungary in the early 18th century and continued the miners' trade. The author, a descendant of the family is recalling the memory of her great-great grandfather, Károly Maderspach (1791-1949) and his wife, Franciska Buchwald – daughter of a physician – whose life was inseparably linked to that of her husband. Károly studied mining at the famous mining academy of Selmeč, then went on a study trip abroad. After his return (1823) he founded, with a fellow student and distant relative of his the „Ruszkabánya Mining Company of the Brothers Hofmann and Károly Maderspach.” The workers of the mining and iron works' staff (about 4000 persons) were of many nationalities and as Károly Maderspach wanted to address them in their own native tongue, he learned and spoke five languages. Later on he started designing and constructing bridges in order to facilitate the transport of pig iron to the iron works. His promising career and life was put to an end by the war of liberation (1949). First the factory was put under Austrian command and had to manufacture cannon-balls used to defeat Hungarian resistance. When after the surrender general Bem, one of the leaders of the Hungarian troops, arrived with his escort to Ruszkabánya and was given shelter, food and medical care for one night, the couple was taken prisoner in their own home. Franciska was condemned, without trial, to be flogged in public and imprisoned. Her husband, not being able to endure the „shame”, put an end to his life with a mortar produced in their own factory. Thus both of them became martyrs of the Hungarian war of liberation and Hungary lost a promising bridge engineer.

FAMILIES IN THE WOOD-WORKING INDUSTRY; THE COACH-MAKER

DYNASTY KÖLBER

Sándor László TÓTH

The author mentions some families active in the wood-working industry in Hungary, and describes the history of the Kölber family in detail. Their history can be traced back as far as the late 18th century, when Kázmér Kölber, an itinerant saddler journeyman married the daughter of a well-to-do coach-maker and soon opened his own trade in Pest. His son, Jakab Kölber (1878-1843) took over his trade, after a journey abroad, in 1813. He married the daughter of the most important coach manufacturer of Buda, and thus had every attribute necessary for obtaining the privilege to found a coach-making manufacture. He was worried by the fact that most Hungarians purchased their coaches from Vienna and started to build a big manufacturing plant including all

the branches necessary for coach manufacturing. However, death prevented him from carrying out his plan. His son Fülöp Kölber Sr. (1815-1906) took over the trade, was joined by his younger brother Károly, and they carried on the business under the name of Kölber Bros. After the latter left the business in 1869, his brother's sons, Fülöp Kölber Jr. and Alajos Kölber took over. Both of them were experts that had visited most European countries. Soon they switched to the use of Hungarian both in manufacturing and book-keeping. In 1882 they adopted steam energy. The business was taken over by Jenő Kölber, grandson of Fülöp Kölber Jr. In the eighties the business was booming. They won several medals and other distinctions at various exhibitions, even at an exhibitions of motor cars, with their car body. In the 1920s the family enterprise was turned into a share company, and was finally dissolved in 1930.

PRESENTING THE WEISS DYNASTY AND DESCRIBING THEIR FAR-REACHING ACTIVITIES

Erzsébet MIKUS

The family's name became known in Hungary and in the surrounding countries from the 18th century on. Baruch Weiss probably immigrated at the end of the 1700s. According to family legends he must have been a poor country pipe-maker. His son Adolf B. Weiss was born in Pest in 1807 and became a merchant. He married the daughter of a well-to-do citizen of Óbuda. The couple had 6 children, the eldest was Berthold, born in 1845, and the youngest the legendary Manfred, born twelve years later. Berthold had studied economics and the law, and entered his father's business in 1871. He married the daughter of a wealthy Austrian partner of his. Among various activities in the world of business and finances, he was one of the founders of the National Federation of Manufacturers. After leaving the family business in 1896 he became an M.P. in 1896. The next son Arnold was interested in different trades, he was shareholder of various cereal mills. Nothing is known about the 3 following members of the family. The last one was Manfred. He had graduated from the academy of commerce, then was working for a Hamburg wholesale business of colonial goods and became its leader in 1876. After his father's death he returned to Hungary. He was 25, when – together with his brother – they founded the first Hungarian Canning Factory. They mainly supplied the army. Later they started manufacturing tins. As canning was a seasonal occupation, they used the free capacity of the works, from 1889 on, to disassembling and re-filling used infantry cartridge cases. Thus they slowly switched to war industry. After a serious explosion in the plant they had to look for new premises on uninhabited territory. Thus they came to Csepel south of Budapest. They bought the land in 1896 and brought into being the metal works. From 1897 on Manfred was the sole leader of the works and most important supplier of the army. In 1911 the steelworks, somewhat later the foundry was established. The number of workers amounted to 30 thousand. Manfred Weiss was involved in various undertakings. In 1910-11 he was No. 1 of the manufacturing industry, and taxpayer No. 1 of the country. Owing to war contracts Manfred Weiss reached the top of his career during World War I. He investigated much in social institutions in Csepel and elsewhere in the capital such as homes for mothers and infants, a TB sanatorium in the Buda hills as well as a general hospital, among others. – After the fall of the Hungarian Soviet Republic, the works switched to peace production, they manufactured bicycles, motorcycles, sewing machines, stoves and all kinds of small machines for agriculture. The family's fortune was increased by advantageous marriages of three of Manfred's daughters. His sons became engineers, fit for taking over the huge enterprise after Manfred's unexpected death in 1922 as consequence of a stroke.

FROM THE REMINISCENCES OF A FAMILY FROM COUNTY SZEPES IN UPPER NORTHERN HUNGARY

Ottó KLUG

The county belonging today to Slovakia was always rich in ore. Thus Germans, especially Saxons were settled there from the 14th-15th centuries on. The first member of the Klug family, János, was mentioned among the jurors of the town Igló (today Spišska Nova Ves) in 1389. In 1823 baker master Peter Klug's son Nándor was mentioned, who was the first member of the family to be interested in mining. After studies at the nearby Selmec Mining Academy he became a mining engineer and spent all his life at a then recently opened mine in Kotterbach. His first son, Nándor II was interested in medicine and – after studies in Vienna and Pest – became an M. D. After different steps in his career, he was appointed professor of physiology and histology at Kolozsvár (today Cluj, Rumania) university. In 1891 he was invited to head the Department of Physiology at Budapest university. In 1890 he was elected corresponding and in 1894 ordinary member of the Hungarian Academy of Sciences. He published several outstanding books, among others the „Textbook of Human Physiology” (1888). At Kolozsvár University he was dean of the Medical Faculty 3 times, in Budapest twice, and for one year he was rector of the former University. He was raised to nobility in 1904 and obtained the title of court counsellor in 1909. His short-lived son Nándor III became an M.D. as well, and his younger sister married the famous paediatrist Pál Heim. – Nándor III's son, Nándor IV was born in Budapest in 1903 and his interests turned towards machines. So he studied at, and graduated from Budapest University of Technology and Economics in 1926. He obtained a job with a company that manufactured ball-bearings. He summarized his experience in a book published in 1929. His son Ottó II (1934) and his grandson Ottó III (1970) were interested in sciences as well. Both became chemical engineers. The members of the family interested in technology had a motto: „The Hungarian engineer understands every technical problem and tries to solve the technical task the best way.”

FROM RETAIL DEALER TO LARGE SCALE INDUSTRY ADOLF JÁNOSI ENGEL'S AND HIS FAMILY'S INNOVATIVE ROLE

Béla KRISZTIÁN

In the counties Baranya and Tolna a poor young shop assistant, the Jew Péter Engel from Bonyhád went from village to village to sell his goods in the 1790s. Hew was not allowed to settle in towns. In the town Pécs two Jewish families lived in 1790. One of them was a junk-dealer and Peter Engel married his widow. Thus he was able to settle in the town. After his wife's death he again married a widow. Two sons were born to him from this marriage, Adolf in 1820 and Simon in 1822. – After his father's death young Adolf, still a child, starts peddling with matches, pencils and similar goods. He lives in unheated rooms but regularly visits the episcopal library, reads and learns – among others – languages: Hungarian, French and Hebrew. Soon he becomes an educated young man, welcomed in the best circles. In 1836 he starts dealing with furniture and clothing and supplies, through a network of representatives, not only the bourgeoisie of the town but also the county estates. At the age of 23 (1843) he marries the daughter of a respected family of the local bourgeoisie and had 4 sons and 5 daughters by her. Adolf Engel served, during the revolution and war of liberation (1848/49), as member of the national guard. Afterwards he enlarges his enterprises. He supplies the constructions going on at the time, as well as the railways and mines with timber. He establishes all kinds of plants related to wood-working. Owing to his success in business and his donations to the city he becomes a highly respected member of the town. In 1886 he is raised to nobility. He is the founder of (stone) coal-mining in Komló, which starts in 1895. The mine remained in the family's possession until 1907, then was bought, in 1909 by the

Hungarian State. The mine was finally given up in 2000. – Adolf Engel's four sons had different careers. József stayed in Pécs during his whole life as an extremely rich man. Sándor expanded the wood-working plant to Austrian branches. Gyula was outstanding in commerce and became director of the Danube Steamship Company's enterprise for coal marketing. Mór played a role, after studies of the law and economics, in banking, the wood-working industry and economics. The third generation did equally well, however, not all of them in business life, some had literary ambitions.

ROLE OF THE ZSOLNAY FAMILY IN THE LIFE OF PÉCS

Tamás VÁMOSI

Zsolnay porcelain is well known, and not only in Hungary. Its story started in 1851 when Miklós Zsolnay, a Pécs merchant and founder of the family fortune, bought an old and neglected bricklaying and pottery workshop. On the territory belonging to it he wished to establish an earthenware factory. He sold the goods manufactured in a shop in the city. Due to his good commercial sense his reputation soon rose, and he married the daughter of a secondary school teacher. He had 5 sons, Imre and Vilmos became businessmen, Ignác an agronomist, György a lawyer, and Cölesztin an officer. After finishing his studies Ignác returned to the family factory and enlarged it. In 1854 his father transferred the plant to him. However, the son was not able to cope with the tasks and the plant got severely indebted. A loan from his brother Vilmos saved the manufacture. After a short time Vilmos took over the management. By clever business policy he was able to switch from simple everyday pottery to manufacturing ornamental articles. He soon achieved considerable success recognised abroad as well as in Hungary. After his death in 1900 the factory's fate underwent ups and downs. After nationalization, it was allowed to produce industrial porcelain only. From 1953 on the manufacture of consumers' goods and ornamental articles was re-started.

ANCIENT TERMINOLOGY OF IRON METALLURGY, TECHNICAL TERMS AND LINGO. MISKOLC 2003

László PORKOLÁB

The author gives a summary of his recently published book of above title. Thereby he gives an account on the history of metallurgy from the antiquity to our days. He enumerates foreign (Agricola, Ludwig Beck) and domestic authors who described metallurgical processes along with the technical terms used. Among the latter Antal Kerpely, Antal Péch and university professor Aladár Edvi Illés as well as some metallurgists of recent times like Ernő Cotel, Imre Soós, Gyula Kiszely, Gusztáv Heckenast, Zoltán Rempert, Ákos Paulinyi and archaeologists like Gábor Vastagh, Gyula Nováki and János Gömöri are worth mentioning.

A DYNASTY OF BLAST FURNACE BUILDERS TWO GENERATIONS OF THE KLIR FAMILY FROM MISKOLC

István GULYA

The author commemorates two master builders of the family Klir in Miskolc: Vencel (1746-1809) and his son Károly (1890-1842). Both participated in building of the metallurgical works established on the territory of the Crown Estate Diósgyőr: Vencel in the transformation of the first furnace that had been built by Henrik Fazola, while Károly participated in reshaping the second blast furnace built after the instructions of Frigyes Fazola. Neither of the two master masons was specialised in furnace building. The author also gives an account on the situation and

characteristics of the building industry in the 18th and 19th centuries and the factors that determined urbanisation at the time.

A STATIONER'S SHOP AND ITS OWNERS

Csaba ALVÁRI

The stationer's shop Szénásy had many owners, family links did not really play a role in the shop's history which started at the end of the 18th century. Simon Trifonovics started dealing in haberdashery at that time. After his death his son János wanted to continue his father's activity, however, he lacked the necessary capital. That is why he decided to open a stationer's shop. He obtained the permission, and was able, by running the stationer's shop, to save up money enough for returning to his original trade. After a number of owners and moving to new premises Béla Szénásy became sole owner of the shop. He was not only dealing in stationery but established a factory for producing copybooks and drawing requisites for schools. Both products are a great success. The factory was run as a share company. Szénásy's son Béla Jr. also was on the board of directors. Szénásy tried to meet the demands of various groups of clients. He supplied ministries, offices and different institutions with stationery and ladies with letter-paper. – He regularly visited fairs abroad looking for markets for Hungarian manufacturers. This gave him the idea of organizing similar fairs in Hungary, too. The first „March Fair” was organized in 1906. As it proved to be a great success, the next one was organized the following year. As the number of participants increased, the fair had to move to the City Park, where it was organized for several decades, under the name of Budapest International Fair. Thus Szénásy's merit is not only the bringing into being of the Hungarian paper industry but also the initiation of Budapest International Fairs.

IGNATIUS BORN, THE GREATEST PERSONAGE OF THE INTELLECTUAL WORKSHOP KAPNIKBÁNYA

János TÓTH

The author describes Ignác Born's life, discussing his place of birth, which appears, in the work of different authors in different ways. Some are of the opinion that his place of birth was Gyulafehérvár, others think that it was Kapnikbánya. It is a fact that in the Archiepiscopal and Cathedral Capitular register of births, marriages and deaths of the years 1741-1744 Born's name does not appear, while he is believed to have been born on December 28, 1742.

THE HELL (HÖLL) FAMILY IN HUNGARIAN CULTURE

A CASE STUDY

Lajos BARTHA

Hungarian history of science and technology keeps in evidence four members of the Höll or Hell family of Selmecebánya: the father and three sons as well as the father's younger brother. The father, Máté Kornél Höll was an outstanding cartographer and mine surveyor, supposed to be born in 1653. He lived till the age of 90. In 1711 he put into operation his mine pump with rocker arm and rod, driven by a paddlewheel. Later on steam-pumps were installed by Máté Kornél's son József Károly (1713-1789), inventor of different kinds of mine pumps. His elder brother Ignác Kornél was an outstanding mine engineer, and of great help to his brother. The youngest member of the first generation, János Mihály was a mine inspector. One of his sons, Ferenc Kornél Hell became a mine counsellor and was raised to nobility by Mary Theresa. – The worldwide best known member of the family's first generation was the astronomer Miksa Hell. He was born in Selmecebánya in 1720. After his secondary school studies he entered the Order of Jesuits and

continued his studies of philosophy – which included mathematics and sciences – in Vienna. He started the Yearbook of Astronomy and revived education of astronomy and geodesy. In 1764 he proved that the moon of the planet Venus was but an optical illusion. His best known achievement was his expedition to the Scandinavian peninsula for observing the passage of the planet Venus in front of the Sun. This was thought at the time the best means of determining the distance between the Sun and the Earth.

THE FAMILY OF SCIENTISTS MANNINGER OF SOPRON **Erzsébet SZÁLA**

The first known member of the family that settled in Sopron was shoeing-smith György Manninger. His great-grandson Mihály Manninger of the same trade obtained the rights of a citizen of Sopron in 1762. His seventh son became an ophthalmologist and county physician. He had two sons and two daughters. One of his sons Vilmos Adolf became a physician, the other one, Gusztáv Adolf an agronomer. Vilmos (1876-1945) was a surgeon, the first to start the struggle against cancer. He was a good musician, too. His younger brother, the agronomer Gusztáv Adolf (1880-1954) was a university professor and breeder of wheat varieties. His son, the agriculturist Gusztáv Adolf Jr. (1910-1982) became head of the Department of Plant Protection and Zoology of Gödöllő University of Agriculture. He was a real scientist, published a lot of important books, and papers and obtained many distinctions for his work, among others the Kossuth prize. Rezső Manninger (1890-1970) was a veterinary doctor, university professor and member of the Hungarian Academy of Sciences. His social activities were manifold. Twice he was awarded the Kossuth prize and was honorary doctor of a number of universities abroad. István Manninger (1920-1990), Gusztáv Adolf Jr.'s brother was a recognized plant breeder. He was mainly dealing with the genetics of flax.

SOME DYNASTIES OF ENGINEERS OR SCIENTISTS IN THE HUNGARIAN **SUGAR INDUSTRY** **István SALÁNKI**

The author describes three families of the second half of the 20th century that gave outstanding technologists or scientists to the Hungarian sugar industry. András Zsigmond Sr. was a mechanical engineer, chief engineer of the branch and director of the Research Institute of the Sugar Industry. Several of his inventions helped to make sugar manufacture more rentable. At the research institute he brought into being a Section of Microbiology and a Section of Automation. His son, András Zsigmond Jr. is a mechanical engineer, too, and director of the Research Institute. He, too, had several inventions and is recognized abroad as well. – Gábor Vavrincz, son of a well-known composer and orchestra conductor, was a chemical engineer and an outstanding technologist of the sugar industry. His most famous work, which brought him international recognition, was „The atlas of sugar crystals, descriptive crystallography of sucrose” published in German language in Germany. His son Béla is a composer and conductor, his younger son Imre, a composer and researcher of popular music, while his daughter Veronika is a historian of music. – Éva Gryllus is a chemist, researcher and internationally recognized sugar technologist. In fact, the first woman to be described by the International Sugar Journal as scientist and outstanding technologist of the sugar industry. She applied various processes of ion exchange in various steps of sugar refining. She was awarded the Eötvös prize and obtained the distinction „outstanding inventor” twice. Before starting her studies at university she had been a piano student of the Academy of Music in Budapest. Her husband is an architect, and both her sons graduated as engineers before starting their careers of musicians, which brought them nationwide fame. Her grand-daughter is a talented young actress, her grandson Samu a composer. Both are working abroad.

RECENT RESEARCH RELATED TO MIHÁLY POLÁNYI

Éva GÁBOR

Radiologist Dr. Szabolcs Mózsai has been studying the early years of Mihály Polányi's career for some time, looking for the answer to the question, why the chemist and philosopher had chosen the career of a medical doctor and why he switched so soon to chemistry. He came to the conclusion that Polányi might have chosen the profession of a chemist as soon as at the beginning of his studies at Medical School. He found out when Polányi had attended lectures at Karlsruhe University and how much time he had spent in doing so. He spoke about his results for the first time at a conference organized by the Mihály Polányi Liberal Philosophical Society in 2003 which bore the title „The chemist Mihály Polányi". Twelve papers were presented at the conference by 9 Hungarian researchers and 3 participants, of Hungarian origin, from abroad, 2 of them being Nobel-prize winners, and one of them a Wolf-prize winner. Dr. Mózsai came to the conclusion that medicine and chemistry, both equally difficult subjects, could not be studied in the semester system in parallel, at the same time, in two different countries, owing to the high number of theoretical lectures and hours of laboratory practice.

ONE HUNDRED YEARS OF THE FAMILY ZEMPLÉN IN SCIENCE, HISTORY OF SCIENCE AND PHILOSOPHY OF SCIENCE IN HUNGARY

Gábor ZEMPLÉN

The author deals with two members of the Zemplén family, the physicist and philosopher of science Győző Zemplén (1879-1916) and his daughter, the historian of science (in the first place of physics) Jolán Zemplén (1911-1974), omitting the professor of organic chemistry Géza Zemplén (1883-1956), Győző's younger brother. He stresses the importance of Győző Zemplén's achievement in the field of popularizing science along with philosophical thoughts about it, and estimates the method of writing history of science as Jolán Zemplén has done it, as out of date, although she has been a pioneer in the field in Hungary.

THE KORÁNYI FAMILY

Károly KAPRONCZAY

The family's history goes back to the last decade of the 18th century. Friedrich Joachim Kornfeld was a Jewish Vienna banker, who had made a fortune during the Napoleon wars, which he lost owing to the inflation that followed the conqueror's fall. His three sons: János, Viktor and Sebald had studied at Vienna university, became surgeons/obstetricians, settled in Hungary in the 1820s, changed their names to Korányi and founded families that produced outstanding successors in different fields. Two of them, both famous physicians, merit special attention. Baron Frigyes Korányi (Sebald's eldest son) participated in the Hungarian war of liberation (1848/49) partly as member of the national guard and partly as physician. In 1864 he was appointed professor of internal medicine at University Clinic II. His scientific work was mainly related to the diseases of the thorax. He was the one that started the struggle against TB in Hungary. – Sándor Korányi (1866-1944), Frigyes's fifth son was the greatest Hungarian specialist of internal medicine. As professor of Clinic III of Internal Medicine he dealt with a wide spectrum of diseases and was ordinary member of the Hungarian Academy of Sciences.

THE TWO VAN SWIETENS

Katalin KAPRONCZAY

The van Swieten – father and son – of Dutch origin both played outstanding roles in shaping science, education, and culture in 18th century Austria. The father, Gerard van Swieten (1700-1772) had studied medicine in the Netherlands and became assistant of the most outstanding Dutch professor of medicine, Herman Boerhave. Being a catholic, van Swieten could, however, not be his successor at university. Thus he accepted the invitation to of the Austrian empress Mary Theresa to be her physician at court. As university teacher he founded the so-called first Vienna school. Later he became „Prefect” of the Hofbibliothek and censor and fought for reforms in university education and book publishing. He was of great help in persuading the empress of the necessity of establishing a medical faculty at Nagyszombat university in Hungary. – Gottfried van Swieten (1739-1803) was interested in public education and cultural affairs. After his study journey abroad he wrote a detailed report on the Prussian education system. After his father's death he was appointed prefect of the Vienna Court Library. He was a free-mason, and kept up friendly relations with Hungarian free thinkers. After having participated in Joseph II's educational reforms, he turned his attention to the musical life of Vienna, here he achieved much good, too.

VOCATION OF EMIL FELLETÁR'S „FAMILY” IN A WIDER SENSE

Márta MOHOS

Emil Felletár (1834-1917) was the founder of forensic chemistry in Hungary. He studied in Sümeg and Keszthely, later on at the Faculty of Chemistry of the Royal Hungarian University of Science in Pest. The university conferred the degree of doctor of pharmacy on the young man of outstanding capabilities in 1862 and, upon Károly Than's appreciatory opinion he obtained the title of private docent of forensic and police chemistry. By indefatigable work and articles written in Hungarian weeklys he wanted to reach that forensic chemists be appointed beside the courts. He urged the establishment of regional chemical institutes for safeguarding public health. In 1871 he was appointed public forensic chemist at court and performed his analyses entailing legal consequences first at Károly Than's Chemical Institute, then from 1883 on at the National Institute of Forensic Chemistry he was leader of until 1913. His experience and methods were published in his book „Forensic chemistry” written together with his student József Jahn. – From among the members of his family Béla F. (1841-?) was working as pharmacist in county Arad, József F. (1893-1972) became an assistant at Clinic II of Gynecology as obstetrician and gynecologist. He published several papers in the „Medical Weekly”. Later he was appointed Head Physician of the Public Hospital Szent István in Makó. As Emil Felletár's heir, he administers his legacy.

THE STÁHLY DYNASTY OF PHYSICIANS

Erzsébet KÓTYUK

The Stáhly family came to Hungary from Donau-Eschingen. Its first member we know of is György Stáhly, a discharged medical officer, who settled in Pest at the end of the 17th century and practised as surgeon. His son György Jr. (1712-1778) had served for 20 years as medical officer, then practised as surgeon as well. His son, György III was born in Pest in 1755, started his medical studies in Nagyszombat and obtained his degree of surgeon and obstetrician in Vienna. He, too, had served in the army until he obtained the title of associate professor at Vienna university. From 1784 on he was professor at Pest university and taught, besides practical surgery, obstetrics and ophthalmology. He was an excellent ophthalmologist and achieved important results in the field of cataract operations. Upon his urging, two rooms were separated for ophthalmiacs within the

Surgical Hospital. In 1801 he was delegated by the Council of Governor-General to the coast of the Adriatic, where an epidemic of syphilis had broken out. Besides dealing with the epidemic, he treated the poor population without any payment, in spite of the fact that – owing to the inflation that occurred as a consequence of the Napoleon wars – he was deeply in debts. Hard work and worry made him seriously ill and he died in 1802 at the age of 47. – His son Ignác (1785-1849) must have been a highly gifted person as he obtained his first degree in philosophy and linguistics at the age of 13. He was 16 when he obtained a diploma as master of ophthalmology (1803) and one of medical teacher and master obstetrician in 1806. In 1827 he was appointed director of the institute of surgery, and two years later he was elected rector of the university. In 1831 an epidemic of cholera broke out and Stáhly was entrusted with taking the necessary measures to fight the disease. One of these was a quarantine around Pest. The poor students from the country that could not get home, revolted and Stáhly had to revoke his orders. In 1833 he was appointed ordinary professor of surgery, in 1834 he obtained the title of royal counsellor and in 1839 was elected member of the Vienna Association of Physicians. After Lenhossék's death he was appointed „protomedicus” (chief physician of the country). In 1846 he was presented the freedom of Pest. He held an important position during the revolution and war of 1848/49. He died in 1849 of a grave disease. – Ignác Stáhly's son György (1810-1846) followed the example of his father and grandfather, and became a medical doctor, too. He was a promising young man, however, he died of serious diseases at the age of 36. During his short life he published a number of papers, in this respect he was more active than his ancestors.

THE CHILDREN OF HIPPOCRATES

Vera SCHILLER

Hippocrates (460 B.C.-377 B.C.) was born on the island of Kos. His grandfather he inherited his name from, had been a renowned physician during the Persian wars. Young Hippocrates started his studies with his father Heracleides. Later he was travelling about for 12 years in order to gain experience, then visited the island of Tharos and Larissa in Thessalia. It was at this latter place he finished his scientific work after he had retired from leading the Kos school and that was also the place where he died. The „Corpus” that remained under his name consists of 72 medical works. They were written within about 100 years and are obviously not one person's work. What is common in them is that they are true medical descriptions of diseases, medication, and recoveries. They do not turn against the gods but treat the reasons of diseases and the best ways of therapy. After Hippocrates, his school was continued in his spirit, thus all his successors might be regarded as his descendents, his spritual children.

THE NOBLE FAMILY BENE DE RÖJTÖKFALVA

Zoltán SENKEI-KIS

The roots of the family can be traced back to the 18th century, when the families Nagy de Felsőbük and Bene were the two most distinguished small-holder noble families in county Sopron. Between 1723 and 1729 four children were born to Katalin Nagy and Ferenc Bene. One of the three boys, Mihály married Anna Thury in 1774, and in 1775 their son Ferenc was born. Ferenc Bene (1775-1858) started his studies of medicine in Vienna, against the wish of his father. He graduated from the Medical Faculty Pest in 1798 and became tutor of surgeons at Pest university one year later. As soon as in 1800 his book on Instructions against the dangers of smallpox” was distributed free of charge among county physicians, surgeons and schools. One year later he organized public vaccination in Pest, again free of charge. From 1803 on he was ordinary professor of anatomy. After different intermediate steps in his career, he became director of the faculty in

1840. In the same year he founded the Society of Hungarian Naturalists, and one year later the Itinerary Congress of Hungarian Physicians and Naturalist was founded under his presidency. His main work was a 5-volume textbook on internal medicine „Elementa medicinae practicae”. The fifth volum was written together with Ferenc Bene Jr. He had 10 children, two of them became physicians: Ferenc Jr. and Rudolf. – Ferenc Bene Jr. (1803-1881) was born in Pest and graduated from Pest university as physician. He started his career at the Department of Forensic Medicine of the university, where he became deputy professor of forensic medicine from 1840 on. He published much, among others a book on „Apparent death” in 1843. He was one of the founders of the Royal Medical Society of Pest-Buda. – His younger brother Rudolf (1816-1888) graduated as M.D. from Pest Medical Faculty in 1840. After his university studies he acquired a surgeon's and master obstetritian's diploma. After some years at the University Hospital he became chief physician of internal medicine at Rókus Hospital. Out of his three children Géza Bene (1855-1922), born in Pest, graduated from Selmechánya Academy as mining engineer and became, later on, director of the Anina coal mine. He was one of the initiators of life-saving in mines. His main work was about the „Gas outburst in coal mines”. – A fourth member of the Bene family worth mentioning was the painter and designer Géza Bene (1900-1960), grandson of Ferenc Bene Sr.'s son Károly.

THE THREE BENKŐS

Tibor LAÁR

The three persons to be treated bore the same family name but were not directly related to each other. The eldest, József Benkő (Bardócz, 1740-Közéapajta, 1814) was a son of a Calvinist pastor and he was to follow the same trade. However, this did not satisfy him. He went studying libraries and archives, and as result of his research work he wrote his first work, a history of Transylvania, published in Vienna. He was also interested in botany. His works „Nomenclatura” and „Nomina Vegetabilium” were published in 4 languages. He was a follower of Linné. – Sámuel Benkő (Kisbacon, 1743-Miskolc, 1825) first graduated from the Faculty of Philosophy of Leyden university, then from the Medical Faculty of Buda university. He accepted the invitation of county Borsod, became its physicus (chief physician), settled in Miskolc and stayed there till the end of his life. – The youngest one, Ferenc Benkő (Magyarláros, 1745-Nagyenyed, 1816), also a pastor was interested in mineralogy. His book „Hungarian Mineralogy” was the first Hungarian book on the topic. He was invited to head the Department of Natural History of the College in Nagyenyed in 1790. The Iena Society of Mineralogy elected him correspondent member.

PÁL ALMÁSI BALOGH, POLYHISTOR OF THE REFORM PERIOD AND HIS FAMILY

Livia KÖLNEI

Pál Almási Balogh (1794-1867) was an outstanding and well-known personage of Hungary in the reform period. He participated in nearly every progressive social movement and was, besides, the most highly respected domestic representative of homoeopathic therapy. He was István Széchenyi's and Lajos Kossuth's homoeopathic medical adviser. He was a founding member of the Hungarian Academy of Sciences, of the Industrial Association, the Anglo-Hungarian Institute of Commerce and the Society Against Cruelty to Animals. He was the author of papers in the field of sciences and one of the most important language reformers. His profession of homoeopathic physician was continued by his son Tihamér Balogh (1838-1907), who became an outstanding figure of the history of this therapy in the second half of the 19th century. The elder grandson, Lóránt Balogh (1869-1945) won many competitions as architect, was director of the College of

Applied Art from 1812 on, and later professor at the Technical University. The younger grandson, Elemér Balogh (1871-1838) was a well known economist, an economic organizer, whose name is linked to the foundation of the „Hangya” Co-operatives.

THE BÓKAY DYNASTY **Katalin CZÁR**

János Bókay Sr. (Igló, 1822-Budapest, 1884) obtained his degree as M.D. in Pest, in 1847. He became assistant physician of the Pest Hospital for Poor Children, from 1852 on he was its director/chief physician. From 1873 on he became ordinary professor at Pest University, which post he held till his death. He extended education to midwives, too. At the Hospital he admitted children till the age of 13 and infants mostly with their mothers. During the 3 decades of his directorship the Hospital reached the European level and, in 1883, moved to new premises under the name of Stefánia. He was elected president of the Medical Publishers Company, from 1868 on member of the National Council for Public Health, and till 1874 president of the Capital's Medical Society. Some of his works were translated to foreign languages. – His first son, Árpád Bókay (Pest, 1856-Budapest, 1919) was an M.D., a specialist of internal diseases, and a pharmacologist. He started his studies in Pest and ended them in Strassbourg in 1879. He started his career at the Clinic for Internal Diseases in Pest. He participated in compiling a Dictionary of Medicine. He was deputy editor of the Medical Weekly and co-editor of the Medical Review. From 1881 on he was assistant at the Department of Internal Medicine of the Korányi Clinic, then became private docent in the field of physical methods of examination. From 1883 on he was Head of the Department of General Pathology and Pharmacology at Kolozsvár University. In 1890 he became head of the Budapest Institute of Pharmacology. He was raised to nobility and was elected corresponding member of the Hungarian Academy of Sciences. – János Bókay Jr., Árpád's younger brother (Pest, 1858-Budapest, 1937) graduated from Budapest University in 1880 and became chief physician at Stefánia Children's Hospital headed by his father. After the latter's death he became head of the institution. In 1885 he became private docent in pediatry, in 1892 associate professor and from 1907 on till retirement (1929) ordinary professor at Budapest Pázmány Péter University. Besides his activities as physician he was active as archeologist and musician/composer. – Zoltán Bókay (Budapest, 1885-Budapest, 1855) was Árpád's son. He started his medical career as pathologist, then joined Stefánia Children's Hospital. From 1930 to 1947 he was Director of the Children's Clinic in Debrecen, then he was deprived of his job and was chief physician at a Budapest polyclinic till his death.

ANDRÁS SAXLEHNER AND THE 140-YEAR-OLD BITTER WATER PLANT **„HUNYADI JÁNOS”** **Gyula MAJOR**

The author gives a short overview on the Buda bitter water springs, then writes about the family Saxlehner. The Saxlehner ancestors were cloth manufacturers. András Jr., (1832) the founder of the bitter water plant, was the fourth child of 8. He, too, wanted to continue his ancestors' trade. He opened up a cloth shop in Budapest. An acquaintance of his complained to him about the bitter water yielded by the well on his piece of land. Saxlehner had the water sample examined by a forensic chemist who found that it was highly concentrated bitter water. As on the plain of Kelenföld the bitter water discovered earlier was sold in bottles, the new well seemed a good investment, so Saxlehner bought the land and started the successful manufacture and sale of the „Hunyadi János” bitter water. The income of this product allowed the investor to buy more land, so he soon became a wealthy man. However, the stressed speed of work undermined his health

and, during a journey for a cure he died of pneumonia in Vienna in 1889. In the meantime the plant was developed into an up-to-date large scale factory. From 1869 on the bitter water became an export article. Production reached its top in 1913 when over 15 million bottles were sold in different countries. World War I put an end to the plant's days of glory. The adverse trends lasted during the whole 20th century. However, due to the entrepreneurial spirit of a bottling plant in a country city, over half a million of bottles containing the bitter water were sold in Hungary in 2003 and 350 thousand were exported. Thus the plant still seems to have a future.

EFFORTS TAKEN DURING THE REFORM PERIOD TO ESTABLISH THE HUNGARIAN LANGUAGE OF SCIENCES

Ágnes JOBST

In the early 19th century many scientists were concerned about establishing an appropriate Hungarian scientific language. University lectures were mainly held in German and Latin, although emperor Francis I allowed, by decree, to hold part of the lectures in Hungarian. The predecessor of the Hungarian Academy of Sciences considered developing the Hungarian language as its main task. They organized 4 special committees, the first and most important of which was the Committee of Grammar and Dictionary. An outstanding physician, Pál Bugát (1793-1865) realized the lack of the Hungarian medical language during his lectures in surgery. In order to remedy to this he translated the best foreign, mainly German textbooks into Hungarian. Moreover, he wrote lecture notes for his students in Hungarian. Together with Ferenc Toldy, a student and later co-worker of his, he started the first medical journal in Hungarian language. Beside the new expressions the old termini technici, mainly taken from Latin, were indicated in brackets. The results of bilingual publication of the first two volumes were collected as „Hungarian-Latin and Latin-Hungarian Medical Glossary". Beyond the glossaries related to individual publications the demand for scientific and medical dictionaries arose as well. However, some scientists, e.g. Pál Almási Balogh did not agree with Bugát's „purism" that wanted to substitute every foreign word with a Hungarian one. The dispute was a vain one as by that time international terminology was well developed in many branches of sciences.

THEY COULD EVEN HAVE BEEN DYNASTIES

(DATA AND OPINIONS ABOUT THE FATES OF THE FAMILIES KLEINHEINZ AND NÉMETH)

József HALABUK

The author wants to show, on the example of two families, the important role external factors might play in the formation of their fate. – The first example was taken from the 19th century. The „founder" of the dynasty was Xavér Ferenc Kleinheinz (1765-1832) a well-known composer of Bavarian origin. From 1800 on he lived in Pest as conductor of the German theatres' orchestras in Pest and in Buda. Their son was (János Ágoston) Oszkár Kleinheinz (1819-1849). He had been a student of the Tulln Sappers' School. He became a professional soldier and, in 1848, joined the Hungarian army. He participated in one of the most bloody battles of the 1849 war of liberation, where he met his death by an Austrian bullet. Among the Hungarian victims of the battle he was the best trained, held the highest rank (that of a major) and had the most important task to cope with. – The second example is that of the well-known writer László Németh and his family. The founder of the dynasty was József Németh, a secondary school teacher of geography and history. The most famous member of the family was the writer mentioned, a learned M.D., and father of six daughters. Four of them reached the adult age: two became chemists, one a physicist and one a physician. For over ten years he was school physician at the secondary school, where his father

had taught. He was not really popular with the communists. This fact influenced the fate of – at least – one of his daughters. As it was hopeless for her to get admission to the faculty of medicine, she took up two foreign languages at the faculty of philosophy of Budapest University: French and English. However, after the first semester she was told that she could not study two foreign languages, and had to switch over to Hungarian instead of French. This proved to be the hell, as the professor kept heaping insults on her father, and the situation was the same at the exam. She decided not to endure this longer and, after some detours, pursued studies of chemistry. However, she could not finish her studies as, with her husband, she emigrated to Canada. Thus she was prevented by external factors to chose a profession that would have suited her. This story was quite characteristic of the times.

ROLE OF THE LENHOSSÉK FAMILY IN THE HISTORY OF HUNGARIAN MEDICINE

Barnabás MUHI

The author gives an account on the life and activities of 4 generations of a family of physicians. The first renowned Lenhossék, Mihály Ignác (1773-1840) was son of a German speaking craftsman from Pozsony (today Bratislava). He attended the Jesuits' school there, who recognized the young man's talent and made his studies possible. After studies in Vienna and Pest, he graduated as physician in 1799. He introduced small-pox vaccination in Hungary. He taught physiology and anatomy at Pest, later at Vienna university. His main work „*Physiologia medicinalis*” became a compulsory textbook at most European universities. He was a great reformer of university training. – His son József (1818 Buda – 1888 Budapest) graduated in 1841 and became assistant at the Department of Anatomy at Pest University. From 1854 on he was professor in Kolozsvár (today Cluj), then returned to Pest, where he held the Chair of Descriptive and Topographic Anatomy till his death. He was elected first corresponding, then in 1873 ordinary member of the Hungarian Academy of Sciences. In the academic year 1878-79 he was rector of the University. His scientific work was linked to the anatomy of the central nervous system and the brain. – His son, Mihály Lenhossék Jr. (1863-1937) was the first to gain international fame for Hungarian anatomy. His career was a straight one, he became Dean of the Faculty of Medicine, later Rector of Budapest University. He was co-president of the Hungarian Academy of Sciences and member of the Upper House of Parliament. His scientific work was manifold and covered anatomy, cytology, histology, evolutionism, anthropology and biology, among others. The greatest part of his works dealt with the fine structure of the nervous system and its evolution. One of his main works was the three-volume *Anatomy of Man*. – The fourth generation, Mihály Jr.'s nephew was Nobel-prize winner Albert Szent-Györgyi (1893-1996). His main profile was physiology and he has achieved outstanding results in muscle biology and energy research. However, his name is mainly linked to the isolation of vitamin C from green paprika.

PROFESSIONALS, PHYSICIANS, TRADITION

Katalin SZABÓ

In her paper the author deals with some events, characteristics and forms of behaviour that seem to be common to the personal fate of individuals belonging to families of professionals, in the first place, physicians. These can be summarized as follows: a/ the formation of the social situation of the physician in the 19th century and the changes that follow from it: a bourgeois or professional form of living and urbanisation; b/ creation and maintaining of professional publicity 1./ by means of different societies and professional organisations and 2./ on the level of publishing professional journals and books; c/ experiencing and enriching culture in the broadest sense,

beyond the profession. The author gives examples from the lives of renowned physicians (partly described in other papers of the conference) to back up her theory.

**REMEMBRANCE OF A DYNASTY OF CHEMISTS
THREE SCIENTISTS WITH THE NAME OF BÉLA LENGYEL FOR THE
DEVELOPMENT OF CHEMISTRY
Judit IJJAS-RÁCZ**

Béla Lengyel Sr. (1844-1913) was the first chemist of the family that gained fame. He detected carbon subsulphide, developed a process for preparing calcium and strontium in larger amounts and pure state. He was the first to perform measurements of radioactivity in Hungary and he wrote the first up-to-date textbook in Hungarian language. He was famous for preparing his glass equipment himself and with great skill. As professor of chemistry at Budapest university of sciences he brought up a generation of excellent chemists. He was elected an ordinary member of the Hungarian Academy of Sciences. – His grandson Béla Lengyel II (1903-1990) was Head of the Department of General and Inorganic Chemistry at Budapest University of Sciences Loránd Eötvös. He mainly dealt with physical chemistry, in the first place with the chemistry of glass and silicones. He was the founder of glass electrode manufacture in Hungary. A result of his research of international appreciation was the polymerisation of different siloxane derivatives and the kinetics of their hydrolysis. His textbooks written with co-authors reached several editions. He was awarded the Kossuth prize in 1955. – Béla Lengyel III, son of Béla Lengyel II was born in 1940. He reached the title of Doctor of the Hungarian Academy of Science in 1995. He is dealing with the kinetics of electrode and corrosion processes, and obtained the distinction of „Outstanding Inventor.”

**CONSTRAINT OR LUCK?
THE CIRCUMSTANCES AND PROMINENT PERSONALITIES OF FOUNDING THE
UNIVERSITY OF VESZPRÉM
Zoltán BIRKNER**

After re-structuring József Nádor Engineering and Economic University in 1949, Veszprém was chosen as the place of the Heavy Chemical Industry Faculty. A young senior lecturer, Károly Polinszky was asked to organize the new faculty. – The opening ceremony was on 26th September, 1949, with sixteen participating teachers and one hundred and seven students. In 1951 an independent institution was brought into being as the Veszprém University of Chemical Industry.

**HISTORY OF A FAMILY OF PROFESSIONALS BETWEEN 1490 AND 2004
HISTORY OF THE DOMJÁN FAMILY
Lajos DOMJÁN**

The author gives an account of the history of his family, his ancestors. He analyses the origin of the family name and how they came to Hungary and spread in the country, he mentions the land they obtained in Szentgyörgyvölgye (south-western Hungary) and Pál Damyan, homo regius, who can be considered with certainty the ancestor of the family. He then writes about how the family served the homeland in various wars, and finally, enumerates the professions of the ancestors.

THE THREE FREE MASONS BÓKAY Zsuzsanna Ágnes BERÉNYI

The significance of the Bókay dynasty in Hungarian medicine is well known and has been dealt with at this conference, too. The author presents original archival documents to prove that three members of the family: specialist of internal diseases and pharmacologist Árpád Bókay (1856-1919), his younger brother, paediatrist János Bókay Jr. (1858-1937) and Árpád's son, paediatrist Zoltán Bókay (1885-1955) were free masons, members of the lodge Pátria. János Jr. was even elected grand master.

CHALLENGES RELATED TO UNIVERSITY AND COLLEGE EDUCATION Zoltán BIRKNER

External environmental effects may result in changing the contents of education and the mission of the university; new notions gain sense like sustainable applicability, training based on the interrelation of education and research. Of course, a number of additional problems might be formulated in connection with transformation: ensuring sustainable financing; enhancing of the competition and differences between institutions or co-operation and strengthening of unity; co-operation of industry and university in the field of development and research; re-thinking of management; future of university research – strengthening of networks, creating of research visas.

COUNTRY DESCRIPTIONS IN THE CARPATHIAN BASIN IN THE FIRST HALF OF THE 18TH CENTURY Antal András DEÁK

The author deals with country descriptions, by wording and mapping, from the 18th century. These descriptions have a common feature in that they are not simple geographical works, their authors wanted to serve not only the science of geography but, by their complex descriptions, Europe and Hungary as well. The Carpathian basin that had been considered – due to the 150-year Turkish occupation – *terra incognita*, was described and mapped by Marsigli & Müller, taking into account the expectation of the Royal Society, too. On the other hand, authors from Hungary like Sámuel Timon, Mátyás Bél, Sámuel Mikoviny, János Fabricius Kovács and Károly Tomka-Szászky gave a mirror of the country and prepared an inventory of it in the spirit of the thought „it is not the hope for reward but love of our country we are driven forward by.”

