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This modest publication is presented to the XXIII International Congress of the History of Medicine by the Hungarian Society for the History of Medicine and the Semmelweis Medical Historical Museum and Library. In Hungary organization and scope for medical history is provided by the Hungarian Society for the History of Medicine and by the Pharmaceutical Historical Section of the Hungarian Pharmaceutical Society, in close cooperation with the former, while the basic institute is the Semmelweis Medical Historical Museum and Library. From 1970 its periodical, Communicationes de Historia Artis Medicinae will be published jointly with the Society.

This volume offers some results of the researches done in Hungary in the main themes of the Congress. In addition special consideration was given to papers dealing with British-Hungarian relation in the field of medicine and health. At the same time the present volume represents the first steps of the preparations for the XXIVth International Congress of the History of Medicine to be held in 1974 in the Hungarian capital, Budapest.

LECTURIS SALUTEM

C'est à l'honneur du XXIII^e Congrès International d'Histoire de la Médecine que la Société Hongroise d'Histoire de la Médecine et le Musée et la Bibliothèque Semmelweis d'Histoire de la Médecine à Budapest ont fait apparaître cette volume modeste. Les organisateurs et le forum d'histoire de la médecine en Hongrie sont la Société Hongroise d'Histoire de la Médecine et la Section d'Histoire de la Pharmaceutique de la Société Pharmaceutique Hongroise étant dans une collaboration mutuell étroite. Son institut de base est le Musée et la Bibliothèque Semmelweis d'Histoire de la Médecine dont la périodique intitulée «Communicationes de Historia Artis Medicinae» paraît dès 1970 comme une publication commune avec la Société.

Dans la volume présent nous publions les résultats des recherches hongroises quant aux thèmes principaux du Congrès mettant simultanément au premier plan les études qui s'occupent des relations médicales et hygiéniques anglo-hongroises. Les travaux concernants notre volume marquent toutefois le début de la préparation du XXIV^e Congrès International d'Historie de la Médecine en 1974, qui aura lieu à Budapest, dans la capitale hongroise.

STATE-MODELS (UTOPIAS) AND SOCIOLOGY OF MEDICINE*

by MÁRIA VIDA

Social sciences was well developed at the end of the 18th century, but the theory or rather the methodology of sociology became a source of investigation only in the 19th century. The aspects of society were already studied in ancient times, though—since this term was not known—they thought of an omnipotent state as the only structure of human coexistence. Their judgement about human community—what we call society today—were expressed inside the political science.

In our times the investigation of sociology was primarily interested in what a real society should be, in contradiction to the philosophers of the ancient world, the Fathers of the Church in the Middle Ages and the modern "natural-lawyers", who were discussing about an ideal constitutional form. They did not describe the veritable society and its occurences, but showed a model of social conditions to their contemporaries, which had been imagined or contemplated suitable by them.

Nowadays it has gradually been accepted in modern medicine that a substantial proportion in the ethiology of certain diseases and the conditions of recovery have social origin. As social circumstances are natural elements of human being, social existance impresses all functions of human body. The practical problems of prevention and therapy of diseases beside social relevances represent a special social aspect for medicine. For accomplishing its task, medicine needs the coordination of hospitals, ambulances supply of drugs, instruments, highly organized astablishments for training specialists. The economical and political situation, social factors outside medicine, determine the condition, the quality and the advanced stage of this coordination. Therefore sociology is not only a manifestation of medicine, but also its financial

* In this study author made a comparison between the historical development of Utopian social theories and the social historical examination of medicine and public health. Utopian experiments, Utopian colonies put into practice (the colonies of Jesuits founded in Paraguay just as the American societies at the beginning of the 19th century, the experiments of Owen, Rapp etc.) are the subjects of another study. Writing this study the author relied Hungarian special literature necessarily or rather foreign works to be found in Hungary, this books on a special subject might be omitted from the point of view of the sociological aspect of this issue. Similarly, the author reported works in the original language to be found in Hungary or paid attention to translations retraceable, although this method often results different translation (or retranslation) from printed publication, for foreign reader it does not cause substantial difficulty in gathering information. (Edit.)

base as it provides the expensive opportunities of development and research work, furthermore social continuity of knowledge.

Some time ago medical problems were in the field of sociological interest exclusively, the physicians paid attention to social questions, because the subject and function of medicine were abounding with social elements. Thus the activity of the physician coincided with that of the sociologist.[1]

Robert Strauss, a well-known American sociologist systhematizing the medical sociology, divided it into two main parts. One of them was *"sociology in medicine"* in which social reactions against diseases were studied, the other, *"sociology of medicine"*, where social elements of public health were discussed. The latter deals with the structure and organization of public health and the combination of circumstances going through them.[2]

The organization of public health may be studied historically at first in the hospital system. Therefore the hospital, as an establishment is the centre of research of the sociology of medicine. The hospital is a meeting place between physician and patient. From the 18th century on wards the role of hospital especially became important in medicine, when teaching and research entered wards by the initiative of *Boerhaave*, and so hospital teaching meant the base of medical training. The term hospital means the activity of physicians, nurses and an administrative organization for the treatment of patients.[2/a]

Our study deals with public health of Utopias describing the ideal and imagined societies from ancient times until today and investigates the level of medicine in each historical period. The reason why we turn to this subject is that sociological evaluation leads to philanthropism which involves humanistic, socialistic and communistic principles.

UTOPIAS OF HISTORY

Sir Thomas More, a scholar and statesman in the 16th century, entitled his communistical political novel *Utopia* in such a way, that this name had been derived from him. Utopia originally means "no place" in Greek, but in More's work it is an ideal and imagined social political and governmental order in a fictions country, where all the unachievable could be realized. Althouhg this term had been used firstly by More, its origin goes further back, because political novels, as a literary form describing ideal societies, were

[1] *Buda, B.:* Az orvostudomány és az egészségügy szociológiája. (Sociology of Medicine and Public Health.) Valóság, 1964, 10, 52–64 pp.; see *Parsons, T.:* The Social System. Clencoe, Illionis, 1951; *Susser, M. W.—Watson, W.:* Sociology in Medicine. London, 1962.

[2] *Straus, R.:* The Nature and Statues of Medical Sociology. Amer. Sociol. Rev. 1957. Vol. 22. 200–204 pp.

[2/a] *Rohde, J. J.:* Soziologie des Krankenhauses. Zur Einführung in die Soziologie der Medizine. Stuttgart, 1962. — Encyclopaedic discussion of sociological aspects of hospital.

written in ancient times and in the Middle Ages as well.[2/b] Until the appearence of political science the form of expression meant political novel, but from the 18th century onwards this was followed by independent theories firstly represented by the French Morelly.

1. PLATO AND THE IDEA OF POLITEIA

The first important idea about a Utopian society appeared in Plato's philosophy in 429—348. B. C. Plato lived at the time of the Peloponnesian War, after Perikles's golden age, when Athens had been threatened by internal struggle and external enemies. Seeing the destruction of his deeply loved town, he investigated the reasons of the events and tried to find a way out. *Politeia*[3] was written after 409 and its concept was determined by a given social situation. Since Plato saw the main problem in neglect of public matters, therefore he considered to organize properly the public matters as a primary task for creating an ideal state. The purpose of state based on justice was complete satisfaction of necessities by fair management of public matters, by judging controversal problems and defending citizens against external enemies. For the fulfilment of these tasks on one hand a governor's board was needed, on the other the class of warriors, who had been brought up to be unconcerned to the power. Education as an important issue already occupied a central place in Plato's work and this view determined the concept of Utopia in following times, however, here education was confined to physical culture and musical teaching as the base of physical and mental formation.

Among the sciences medicine remained in the background, therefore one cannot find an organized system of public health. Physicians were only needed because of the harmful way of life which resulted in diseases. Besides musical teaching, Plato mentioned physical training as well, which protects from deleserious passions i.e. intemporate eating, drinking and idling, and keeps under strict discipline. Socrates, dialogizing with Glaucon, said: *"Thus we may say that as long as eagerness causes lack of discipline here and illness there, on the other hand austerity results rational self-control and good health when both of music and physical training are concerned."*[4] Temporate eating and proper way of life are complementary to each other. The citizens of Plato's state besides the advisable ingestion of cereals and wine, *"can get vegetables, like salt, olive-*

[2/b] *Rézler, Gy.:* Bevezetés a szociológiába. (Introduction to Sociology.) Budapest, 1968. 17—23 pp.; see *Schumpeter, J. A.:* Capitalism, Socialism and Democracy. New York, 1950, 306—311 pp.; *Runciman, W. G.:* Social Science and Political Theory. Cambridge, 1965. Used in general summary of Utopias.

[3] *Zeller:* Über die Anachronismen in den Platonischen Gesprächen. Berlin, 1873. – It served as basis, because there are different opinions at the time of writing of this work.

[4] *Platon* Összes művei. 1. köt. Az állam. Ford. Szabó Miklós. (Plato collected works. Vol. 1. The State. Translated by M. Szabó.) Budapest, 1943. – The literary form is not.

berries and cottage-cheese, furthermore onions and greens,—the sort of peasant meals—and they will cook for themselves."[5] That "inflated-state"—as Plato called the city-state of his age—essentially needs professionists, who did not serve their real necessity of life anymore. Among them were physicians.[6] Owing to far gone diseases caused by lack of discipline consulting rooms and court houses opened *"and the profession of lawyers and physicians became more important."*[7] Socrates asks and notes: *"Is it not a burning disgrace, that people badly need medical care not because of injuries or annually recurring epidemic, but as a result of inactivity or the above mentioned way of life, and they saturated with juices and gases like a poole, compelling the Asklepios-clan to name these different illnesses 'swelling' and 'diarrhoea'."*[8]

Plato also defined his attitude in the question of applied medicine in his own age and further back. In contradiction to the method of Asclepios and his followers—they had cured breaking out diseases only—scorned and ignored the new methods of Herodikos, who wanted to maintain health by regulating the way of life. In other words he adopted diets preventing diseases. *"Asclepios paid attention only to those, whose body was well-constructed and basically healthy, as a result of their way of life and suffered only in temporary diseases, and he established medicine for their sake, when diseases could be driven out by drugs or excisions, and later ordering them to the accustomed way of life."*[9] At the same time Herodicos *"when becoming ill, confused physical training and therapy so much that he destroyed primarily and mainly himself, but later on a lot of people too."*[10] Proclaiming a one-sided opinion, Plato attached great importance only to "doric-asclepiados" applying magic and subjective black art, and he even did not mention the "great" Hippocrates. Nevertheless Hippocrates, being only 30 years old, was almost his contemporary. He lived in B. C. 460 – 377, and not only established a new school by creating reational and empiric medicine, but also became a symbol of ionic medical science itself during his lifetime. Returning to Herodicos, who was sharply refused by Plato, although he might be regarded progressive, on account of his diatetic principles, he was opposed even by Hippocrates, because of his drastic therapies.

— How does a good physician look like? — asks finally Plato and states: *"In fact those could make a good physician, who have not only been studying their profession from childhood, but also can get in touch with people more unhealthy body or themselves suffer all kind of diseases, moreover their bodies are not quite healthy."*[11] The suggestive method of Asclepios is the only proper way of therapy *"surely one does not cure body by body, but body by spirit; and if the spirit*

[5] *Plato* op. cit. 805 p.
[6] *Plato* op. cit. 807 p.
[7] *Plato* op. cit. 854 p.
[8] *Plato* op. cit. 855 p.
[9] *Plato* op. cit. 858 p.
[10] *Plato* op. cit. 856 p.
[11] *Plato* op. cit. 859 p.

is unhealthy or becomes sick, one is not able to nurse efficiantly the others."[12] It is not necessery to organize and direct public health by the state in the aristocratic communism governed by intellectuals, because people reamin healthy as a result of perfect education. Only injuries could be obtained in battles against external enemies or epidemics might cause diseases. Since an ideal state requires ideal citizens, it is a primary task to organize communities for women and children. The role of women, their possibilities and positions should be estimated, regarding the importance of descendents. Concerning emancipation Plato maintained his views surpassing feudalist and capitalist societies, when he declared that capability between man and woman is not basic, only gradual differencies exist. It results from this that the education and duties of women are the same as those of men, and may be equally adapted in every profession; "...*we can say that by nature some woman have the capability of a physician, while others are rather apt for physical culture or fight.*"[13] Naturally, the most capable ones could be "guards", because they may occupy various positions ranking with men in physical and mental ability. At the same time their activities around the family fireplace will be cancelled. The artificial selection is most suitable for obtaining the perfection of population in both of physical and mental qualities: the state provides sexual union between the sons and daughters of prominent citizens. The only aim of their marriage is to secure descendents. The state takes newborn infants away from their parents and brings up them in institutes established for this purpose. Handicapped children are hidden—as it had been done in Sparta—Plato even authorized artificial labor and food-restriction from worthless children.[14] Later on it will be seen that in the constitutional theories in each historical period issues of progeny and infant-care are connected with sociology of medicine directed by the state. The relationship between men and women is rationalistic and lacks any emotion, it is based on begetting, therefore it was to be carried out only in forms organized and directed by the state.

2. UTOPIA OF HUMANISM

Although *Augustine* (St. Augustine), founder of the Christian theory of state and his theoretical work: "De civitate Dei" has no relevance to sociology or medicine, considering our aim, his work cannot be omitted from our study, because of its influence on mediaeval culture. It had a significant impact on the Utopias of the humanist period because the aim of Augustine's state was also to maintain peace and to defend external security. Like the humanists in the 15th century, he placed morality above authority and demanded to

[12] *Plato* op. cit. 859 p.
[13] *Plato* op. cit. 926 p.
[14] *Dános, Á.–Kovács, G.:* A szociális eszmék fejlődése. (Development of Social Theories.) Bp. 1925, 118 p.; see Plato op. cit. Book IX.

change power for the benefit of the people. To obtain an acceptable theoretical support for their social ideas, the early Utopists went back either to the aristocratic communism of Plato, or to the early Christian communism of the Fathers of the Church. The idea of Augustine's work was an "invisable" church, "civitas Dei", and he regarded state as the creation of God and nature, as well as Plato, he said that the base of state was justice. He could be regarded as an ancestor of Thomas More in respect of applying historical views—divided history to six periods—according to the Bible and turned the attention to the developing and dinamic character of society and state.

It was one thousand years after Augustine's death when philosophers's attention turned to social problems, in accordance with social conditions shown by English society. In any case the pattern was given in Plato's communistic state, later on in the mediaeval primitive communism and Augustine's "State of God".

The early Utopias were combined with the popular Utopia by an interesting formal feature, namely on account of describing problems in an expressive and suggestive way. Its reasons are the few historical experiences and theoretical ideological data and the abstract theoretical justification for the necessity of a communistic society appeared only in the 18th century.[15]

The first Utopia of the modern times was conceived among the ideas of humanist movement. More and Campanella did not examine the problems of the great masses of the people as it has been done by the Utopist socialists, but they desired to take care of the future of the whole mankind. From both sides communistic character was plainly dominating in describing a Utopian society. In their points of view the original reasons of social conflicts and misery were caused by private property and isolated families based on it. Social equality and harmony, humanistic and right order can only be possible by destroying private property, its establishments and by creating common life.[16] The differences between their view-points originated partly in concrete social and historical circumstances, partly in their personal life.

Sir Thomas More (1478 – 1535), the great humanist statesman, Lord Chancellor of Henry VIII King of England, was an intellectual fosterbrother and friend of *Erasmus*. He saw his age clearly: the developing capitalism in England. His work "Utopia" written in 1516, after his mission to Antwerpen could be based on theoretical and practical precedents as well.[17/a] Not only Plato and Augustine had given inspiration to him, but also the philosopher from Samosata, *Lucianos*, whose fantastic and ironic journey to the Moon, stars

[15] *Morton, A. L.:* The English Utopia. London, 1952.; see *Pataki, F.:* Az utópista szocializmus pedagógiája. (The Pedagogy of Utopian Socialism.) Bp. 1961. 22 p.

[16] *Pataki* op. cit. 28 p.

[17/a] Libellus vere aureus nec minus salutaris quam festivus de optimo rei publicae statu deque nova Insule Utopia auctore clarissimo viro Thoma *Moro*, etc. — Löwen 1516, Paris, 1516–1517, Basel, 1518. — The title and data of the original publication.

and mainly to the Isle of Happiness, supported More to write his book in a moral and methodological way.[17] From Italian renaissance authors, Lorenzo *Valla,* Ficino and mainly Giovanni Pico della *Mirandola,* he borrowed the pleasure of life and desire for happiness.[18] More might be informed about several communistic communities functioned in the 16th century. He knew about the Dalmatian-Slavonian peasant community, the communistic organization in the town of Tabor, or the developing Bohemian-Moravian brotherhood, which flourished about 1500.[19]

Nearly one hundred years later *Tommaso Campanella's* (1568—1639) Civitas Solis ("The City of the Sun") was written in the prison of inquisition, in 1602, therefore it could be published only in 1623. Campanella lived under the darkest age of inquisition, after destroying the perspectives of the Italian Renaissance and humanism. That was the very time when Giordano Bruno's stake was burning, Copernicus's ideas had been denounced by the Pope in 1616, and when Galilei had been committed for trial. Campanella, the plebeian descendent Dominican monk, was also dragged off to prison in the castle of Naples. During the 25 years he spent in prison his ideal and imagined "State of Sun" had been born, and became one of the most important compositions of the early Utopias.

There is a basic difference between More's and Campanella's ideas, because of their historical period. More was born in the centralized England, that is why he dreamt of a nation-state, Campanella's city-state—just like the Platonic—was built up by Italian reality. Instead of a united state, Italy meant city-states being in business at the beginning of the 17th century. Moreover because of the pressing forwards of Turkish and the discovery of America foreign trade ceased to exist and Italy became a pawn of internal powers, England, France and the German Empire.

Inspite of the difference of historico-political situation, in main issues—as the issue of social equality or ceasing private property—they had mutual opinions. In their philosophy public health became a most important problem in the frame of a well-organized and controlled society, that the importance of medicine—under the influence of medical practice started in the Renaissance—increased. Through our examination we shall see, that in Campanella's state physicians get prominent role among the leaders.

[17] *Kardos, T.:* Utószó (Postscript.) Morus: Utopia. Bp. 1963. 128 p.

[18] *Saitta, G.:* Il pensiero ... About the philosophy of Marsilio Ficino and Giovanni Pico della Mirandola; ib. 193., 260—262 p. — Lorenzo Valla's philosophy.

[19] *Alekseiew, M. P.:* Slavic Sources of Thomas More's Utopia. Moscow, 1957.; *Kardos, T.:* A Huszita Biblia keletkezése (The Origin of Hussite Bible.) Magyar Tudományos Akadémia Nyelv- és Irodalomtudományi Közl. 1952, Vol. III, 165 p. John Morton was on mission to King Matthias of Hungary in 1474 to form a league against Wladislas Jagello, who was supported by Hussite estates. About that mission and the negotiations in 1501—1502: *Fest, A.:* Anglo—Hungarian contacts in the Middle Ages. Studies in English Philology. Vol. II, Bp. 1937, 53—59 p.

In the first part of his work Thomas More criticized the contemporary conditions in England; the corruption of government, the injustice of feudalism and the unequal distribution of possessions, as the reasons of general poverty.[20/a] He reported how the farmers had been dispelled for carrying out the more profitable animal husbandry on their fields. These facts also prove that he described an ideal state-model nothing else but for England. The democratic kingdom of Utopia is governed by a parliament of the representatives for the 54 counties. A reighing prince chosen by secret election was to hold his position until he became a tyran. A syphograntus or filarchus (head of the clan) leads 300 families; and 10 syphograntus and their families are directed by a trinaborus (head-man). For making short agricultural work, people from town and villages alternately go to do it. There are 6000 families in every town—which has four districts—and at the centre of every district there is a central ingathering and distributing market. Naturally every district has a hospital. *"These hospitals are so completely furnished and equipped with medical instruments, nursing is so careful and affectionate under the supervision of the best physicians, though nobody is sent there against his will, there is no patient in town who would cure himself at home."*[20] Not only sick persons are looked after, but also elderly ones. Although there are few sick persons among them as a consequence of their healthy way of life, medicine is at the front of all sciences. Besides grammar, philology and history the natural scientist Theophrastus's work "De plantarum historia" and the medical work of Hippocrates and Galen are their favorite readings.[21] The hospital buildings are spacious, similar to small towns, therefore it is no matter how many patients were accepted, they are not confined and uncomfortable. In such a way patients could be separated of those with diseases *"flying from one person to the other."*[22] Sanitary policy concretized within the frame of progressive social policy by undertaking state intervention was only realized following the development by leaps of natural sciences during the 18th century in Europe, moreover in the 19th century in Middle Europe and in Hungary. It had taken classical shape in More's ideal state.

More's idea was far advanced compairing to those of Plato's also in the respect, that he attached great importance to *diet*, because *"...the wise want to prevent diseases rather than to be in need of drugs, rather want to escape pains than to use calmatives..."*[23]

[20/a] *Chambers, R. W.:* Thomas More, London. 1935.; ib. The place of St. Thomas More in English Literature and History. London. 1937.; *Kautsky, K.:* Thomas Morus und seine Utopie. Berlin. 1947.; *Bremond, H.:* Thomas Morus. Paris, 1930; *Beger, L.:* Thomas Morus und Plato. Zeitschrift für die gesamten Staatswissenschaften. 1879. 35; *Morton* op. cit.; *Bloch, E.:* Freiheit und Ordnung. Berlin, 1947; *Mennheim, K.:* Ideologie und Utopie. 1929; — Used literature of biographies and critical works.

[20] *More, Th.:* Utopia. Translated by *Kardos, T.* Bp. 1963. 60 p.

[21] *More* op. cit. 81 p.

[22] *More* op. cit. 60 p.

[23] *More* op. cit. 78 p.

Meals should be controlled by the rules of diatetics according to medical advice: only foods chosen and examined by a physician may be consumed. People gather twice a day in the common halls for having breakfast and dinner, breakfasts are short, dinners are longer. *"It is thought to be more beneficial for healthy digestion, because breakfast is followed by work, dinner by sleep and night rest."*[24] This idea still prevails even nowadays in England. The problems in ethiology and prevention of diseases were in the centre of interest not only in medical consideration but in medical practice and sanitary policy as well. Medical consideration connecting theory and practice, namely realization of cause, effect and practical prevention (prophylaxis) were imagined realities in the age of humanism more than 300 years ago.

More continues: *"The natural way of life"* makes human beings healthy, namely satisfaction of carnal pleasures and salvation without any internal inhibition. *"Health wins the palm among carnal pleasures"*[25], the second type of physical joys is sexuality. More attaches importance to musical enjoyment as Plato did, but he thinks of it as an important part of physical training.

People from the "Isle of Nowhere" give the proof of philantropy they carefully nurse patients with incurable diseases. When fatal illness causes permanent suffering and torture, they advise the patient to commit suicide. More was an early propagandist of *"euthanasia"* namely artificially caused death for bringing to an end intolerable suffering. He wanted to make short the torture of a dying person by voluntary starvation or narcotics. Naturally, it is not forced, but the person who takes it over, could make himself particulary respected. On the contrary More deeply disapproves of unreasonable suicide, "those remain unburied, their corps are not cremated only thrown into the mud."[26]

Campanella made a further step when ranking medical profession among the leaders in the "The City of the Sun". The reigning prince stands among Sol (Sun), Methaphysic, Pon (potestas), Sin (sapientia) and Mor (amor), the Power, the Wisdom and the Love. Their sphere of authority involves military affairs, science and all those connected with education and race preservation controlled at a desired rate. So Campanella puts state guidance not only a scientifically educated theocracy, but divides the machinery of public administration according to its task. Pon, Sin and Mor are the first departmental ministers in the modern sense of the word.[27] Wisdom guides sciences and arts. Its chief officers are the physician, the astronomer, the cosmographist, the historian, the mathematician, the rhetor, the physicist, the politician and the moralist. Making a comparison between this and the prevailing practice until the beginning of the 19th century, when the state's only duty was to secure social order, we may see, that the building up of an imagined society

[24] *More* op. cit. 63 p.
[25] *More* op. cit. 78 p.
[26] *More* op. cit. 83 p.
[27] *Dános—Kovács* op. cit. 203 p.

is definitely progressive. The departments under the control of Wisdom, apart from the above mentioned sphere concerne the fields of public education and sociology of medicine as well. The third department of management, Love, handles the affairs of public education and sociology of medicine under state control, because its official duty to organize medical treatment, race preservation and education of children. These above mentioned departments show the importance of natural sciences, which begun to develop at the beginning of the 17th century and also illustrate their specialization.

In Utopia, medicine was taken into consideration mainly because of social policy, but it is an indispensable basic science in the "State of Sun".[28] The city-walls of "Sun-town" are decorated with different paintings and several things illustrating sciences for teaching the whole community general elements. There are mathematical symbols and numbers on the first circle, and directly on the second there are large jars filled with centuries old medicinal drugs. Phytology is showed on the next circle and *"legend explains their place of origin, nature and usage in medical treatment."*[29] In the "State of Sun", besides physicians, the anatomist is chosen for a special role, he is the leader of anatomy, which is a self-contained discipline. The importance of anatomy increased from the middle of the 16th century, when the revolutionary anatomic work of Vesalius appeared (1543). Campanella was a distinct polyhistor of his age, who published medical and natural scientific books. The former was often used by the physicians of his age.[30] The third department of management controls activity concerning public health and medicine, i.e., medical treatment, race preservation and education of children. Different drugs as rhubarb, decoction of roots, purgatives were used for therapy. These above mentioned cures show the two points of view of that period: one is the exact mediaeval aspect, the other the effect of empiric medical practice. In Campanella's work the first one is rather dominating, because the inhabitants of "The City of the Sun" believe in the curative force of stars, they cure "falling sickness" with supplication and odours. It could not be regarded scientific either that hot fever was treated with cold water.

For preserving health and beauty, physical culture and nourishment have great importance. Young people start gymnastics, spring-race and discus throwing at an early age. Intellectual education begins relatively early as well: at the age of three children are taught the alphabet, at seven they learn natural sciences and paralell with regular physical training, they study medicine, mathematic and other subjects. Thus medicine was placed in the frame of general education. All the vegetative physiological functions should proceed

[28] *Campanella, T.:* Napállam (The City of the Sun.) Translated on the base of a Casatense-codex by *Lányi, M.* Bp. 1942. 34 p.; ib. Civitas Solis, vel de Republicae idea, dialogus poeticus. 1620. — Year of publication and the original title. One part is published. Philosophia Realis, 1620–1623. Frankfurt.

[29] *Campanella* op. cit. 35 p.

[30] *Campanella, T.:* Medicialium ... Leyden, 1635. ib. De Sensu rerum Magia. Frankfurt, 1620.

under permanent supervision. Diatetic controls are different for the elders and for sick persons and for children. Physicians decide dressing, even bathing may carry out according to medical prescription. *"Nourishment takes place in three day periods: on the first day meats, on the second fish and on the third vegetables have to be consumed."* Beside wine, they restrain of taking any drinks and according to the prescriptions they eat the most nourishing foods of every season.[31]

In the issue on begetting Campanella has a similar opinion to those of Thomas More, the only difference is in the forms. In "Utopia" the persons to be married look at each other naked to ascertain that neither of them has some hidden physical abnormality, because adultery was punished very strictly. In the "City of the Sun" marriage is not decided by the young people concerned but by a supervisor accredited for this purpose. *"Men and women taking part in tournaments similarly to ancient Greeks are naked. Tall and attractive women are paired with tall, masculine men, fat women with thin men, and slim women with copulant men are paired to ensure more perfect descendants from their union."*[32] Even the time of their sexual union is determined by physicians and astronomers.

Although family relationship is significantly weakened in Thomas More's work, the family takes an important place in education. Until the age of five the mother brings up the young citizens of "Utopia" though there are common nurseries. Reaching the age of compulsory education, the social educational establishment becomes the main factor for the formation of children, although the family always remains in the backround. Campanella on the other hand definitely rejects the family way of life. As all manifestation of life, education is also subordinated to the control of the whole community. Mothers take care of their children only until the age of two merely physically, then education continues in state-run institutes by expert supervisors.[33] According to him sexual intercourse serves only race preservation, marriage could be formed between predicted men and women, although he allowes free love. More believes in monogamy, Campanella is a propagandist of far reaching life in community, the community of woman and child. He followed Plato's suggestion for controlling sexual relationship and for race preservation organized by the state.[34]

These two outlined grands of the early Utopias dealt with the structure of society, basically Thomas More created a democratic republic, while a despitic community was described by Campanella. At the same time production relations were ignored or imagined in a very simple way. Beside contemplating the justice of society, rational and humanly social structure both of them neglected substantial relations.

At the dawn of capitalism the type of state-theory is *the Utopia of productive forces.* From the fast development of the productive forces by capitalism, the

[31] *Campanella* op. cit. 61 p.
[32] *Campanella* op. cit. 46 p.
[33] *Pataki* op. cit. 32–33 pp. detailed examination
[34] *Dános–Kovács* op. cit. 202 p.

perspectives of the "New Atlantis" of Bacon arose. The impressive view of development overleapt depressing social problems and the apology of capitalism was born.[35]

Francis Bacon (1561 – 1626), philosopher and Lord Chancellor of England, lived one century later. Serving his ideas Bacon did not die on the scotfold like his forerunners. First of all he secured his career in the service of James Stuart of England, who strengthened feudal absolutism again, and beside that Bacon hardly found time to do philosophic and scientific work.[36/a] In 1622, several years before his death his Utopia was published under the title: "New Atlantis" remained only in fragments. The novel is born by phantasy and extasy of happiness from the discoveries and inventions of that historical period, easily solving all the social problems. In Atlantis state—located on the South Sea between Peru, China and Japan—the whole nature serves human knowledge, scientists are flying and ship can go under the sea. For securing health beside controlling the way of life and nourishment, bathing was regarded as an important matter. *"We have nice, spacious bathrooms"*—says one of the leaders of the state—*"with different mixtures for the therapy of various diseases and for refreshing human body from weareness; there are other bathes for the nervous, for strengthening and training vital organs and for preserving the strenght and composition of human body."*[36] These statements have their significance in balneo-therapy and balneo-history as well, because in the advanced Europe of that period neither aristocrats used bathes nor washing was done, the 17th century. Usual bathing spread only in Eastern Europe owing to Turkish influence. In New Atlantis not only the curative strengthening effect of bathing was exploited, but inhabitants made use if the minerals of artificial springs: iron, steel, cooper, vitriol, lead and sulphur. The most important water for drinking cure is the so called *"Paradise water"*, which *"in different forms is very refreshing and secures health and long life."*[37] Finally, we come across the primitive and naive imagination of climate-therapy. Instead of real climate-therapy, only "Healthy Rooms" are for disposal *"in which air is controlled deliberately judged as the best for the cure of diseases and for preserving health."*[38] It might be assumed that the above mentioned method did not mean climate-therapy in Bacon's thoughts, but "balneo-pneomaticum" namely air-bath.

Beside medicinal herbs, Bacon is among the first, who draws the attention to synthetic drugs. From the Renaissance onwards the gradually ceasing grocery-type drug stores were substituted by self-contained, drug selling chemistries in the 17th century. Bacon was the first, who emphasized the institution type of drug stores and medical workshop in his Utopia. Rhe method of producing

[35] *Pataki* op. cit. 21 p. two types of division.
[36/a] *Farrington, B.:* Francis Bacon. London. 1941.
[36] *Bacon, F.:* Novum Organum I. és Új Atlantis. Ford. Sarkady János. (Novum Organum I and New Atlantis. Translated by J. Sarkady.) Bp. 1954. 114 p.; ib Nova Atlantis. 1621.
[37] *Bacon* ib.
[38] *Bacon* ib.

certain drugs proves the pragmatic view dominating even in pharmacy. Beside drugs obtained by various pharmaceutic processes: *"Not only various essences and separetes stand at our diposal, but more suitable methods, which lead to such a reaction of components that they behave like natural drugs."*[39] Bacon's Utopia is characterized by propagation of empiric point of view in exact sciences. Bathing, drinking-cure and air-bathing, furthermore emphasising pharmacy, all indicate the practical application of medicine.

3. THE IDEA OF RATIONAL COMMUNISM IN THE 17TH AND 18TH CENTURIES

Between the early Utopists and the famous Utopian socialist triad: Saint-Simon, Fourier and Owen, the Utopian state-novels were showered on during the 17th and 18th centuries largely. At the beginning England was home of the Utopian works of novel, later on it played an important role mainly in France. Utopian novel was the only form of positive reference of social criticism and social problems. At the same time in England, since capitalist society had been consolidated in a "classic" form there, that function was taken over by abstract scientific investigations. On the contrary, France—in spite of the considerable capitalist development and the pauperization of peasantry—remained invariably an agricultural country. The relative under-development of French capitalism and preservation of feudal conditions, furthermore a combination of the two is more markedly the Utopias of *Denis de Vairasse* and *Fénelon*, on a theoretical basis. They described a communist society based on a rationalist idea. The theoretical systematization of this idea appeared firstly only at the age of enlightenment by *Morelly*'s merit in 1755.[40]

After Thomas More, the Utopian novels were prepared structurally according to a permanent "pattern". Travellers and sailors reported the life and social structure of nations from a remote land, and in their way the idea of communist society arose from the demonstrative and plastic description of social model.

"The history of sevarombs"—the Utopia of Denis de Vairasse (1638—1700) started the most significant tendency in the age and mainly the philosophical thoughts and legal theories of the 18th century.[41] In the first quarter of the

[39] *Bacon* op. cit. 116 p.

[40] The most important Utopian state-novels in the 17th and 18th centuries.; *Harringtom, J.:* Oceane, 1656.; *Vairasse, D.:* La Terre australe connue. 1676.; *Patot, de Tissot:* Voyages et aventures se Jaques Massé. 1710.; *Morelly:* Naufrages Iles flottantes ... 1753.; *Fontenelle:* La République de philosophes ou l'histoire des Ajaociens.; *Bretonne, Réstif de la:* Le Paysan peverti ou les dangers de la ville. 1776.; ib. La découverte autrale par un homme volant ou le Dédale francais nouvelle trés philosophique. 1785. – Among the mentioned works Vaissare means the beginning of the Utopian state-novels, Morelly is the first writer of theoretical ideas. Mainly that is the reason of stressing.

[41] *Vairasse, D.:* Histoire des Sevarambes peuples qui habitent une partie continent communément appelé la terre Australe. 1677.

17th century his foresunner Grotius[42] and Puffendorf, the first representatives of natural law, regarded natural condition as the only suitable base for the realization of a communistic way of life. According to Vairasse nature created human beings to be equal, therefore society should be built up to preserve the original equality of human beings. This idea became the general base of enlightenment and the rationalist communism of the 18th century. In moral respect, human being is not a "tabula rasa", that is, potentially good and bad tendencies are hidden in him, by nature. Through his concept Vairasse concluded that for preserving communistic society, education has a determinative role. "*By nature*—he wrote—*man has a great tendency to faults, provided they are not improved by just, laws, by good examples and education, these bad tendencies increase and strenghten, furthermore they suppress the seeds of virtue, planted into man by nature.*"[43] On the contrary, good education may often improve man and could develop good qualities. The primary importance of education as the base of an ideal society was brought up firstly in the French Utopian state-novel. The same principle appeared later in the ideology of the Utopian socialists and the ideology of enlightenment. As education came into the limelight, sociology fell into background in the fields of public health and medicine, and they came forward only in the frame of education or rather in the line of teaching.

The state of Severamb, with the leadership of Sevarias, the wise law-maker, whose personal wisdom creates society itself, by and large, is a despotic monarchy based on democratic principles. This state differs from More's Utopia, it has history for its origin and development, because Vairasse's idea is influenced by the philosophy and legal theory of his age.[44] Moreover in the forword of his novel he declares that he did not want to write a fantastic story, but he described an existing society in Australia. It was not merely an authors trick rather his faith in the realization of a desired state. With the novel of Vairasse a realistic tendency started in the literary form of Utopia, that, ideologists not only thought dreamily of more idealistic state, but fanatically believed in the realization of their imagination.

Instead of having patriarchal families icluding about 1 000 inhabitants, social education becomes general, family education coming to an end. The virtue of Utopian socialistic pedagogy is the involvement of manual work, which leads to healthy and natural view of life. At the first stage of teaching (from the age of 7—until the age of 14) manual work goes on, later the most talent had been granted an exemption of it for the sake of mental work. In honour of capability and the issue of making possible to develop completely intellectual power Vairasse differed from the Utopian socialists, who pronounced intellectual equality of mankind.[45] Sciences and arts do not occupy the same

[42] *Grotius* (his main work): De iure belli et pacis. 1625.
[43] *Vairasse, D.:* Histoire des Sevarambes. Paris, Bruxelles, 1681.
[44] *Pataki* op. cit. 43 p.
[45] *Pataki* op. cit. 46–52 pp.

position in the comprehensive intellectual education. Vairasse completely ignored thorough requirement of natural scientific education, so he forgot about attainment of medicine and natural sciences. In that respect he fell behind the view of the Utopian socialists' educational and material idea of enlightenment.

Morelly, French materialist, thought according to the line of Locke. Helvetius, that at the birth human psyche is "tabula rasa" in an absolute sense, namely *"human being comes out from hand of nature*—he wrote—*that he is in the lack of any metaphysical and moral idea, his only good quality is to receive them."*[46] With his statement he represented in fact the anthropological view of French materialism. Accordingly the biological character of man is the product of nature and society may be merely an advantegous or harmful circumstance for the fulfilment of the biological needs.[47] Morelly "fetishized" education: *"to develope all natural gifts of man of rational society and by that to prepare man for freedom."*

In contradiction to Vairasse, he underlined the social educational function of the family, although controlled family and marital relationship with dry rationalism. He made marriage compulsory at the age of 15 – 17. He assigned a part to mother in nursing, who feeds the infants herself. The heads of "tribus" follow nursing and the educational activity of parents with attention. Social education begins at the age of 5 for beth sexes in an equal proportion. In Morelly's educational system natural sciences got an important part. While the moral philosophical and metaphysical studies are stabil, the interest for natural scientific problems are infinite, because of the scientific technical material. He assigned to literature and arts an extremly utilitaristic part. In his point of view the main task of education is carried out by propagating moral and physical beauty of nature.[48]

The French Utopian literature is significant primarily as a representative of theoretical and historical permanency, mainly in an educational historical respect. Nevertheless it is important to mention this historical period. Partly it was a significant initiative of theoretical and practical work of Utopian socialism, partly because it turned out by examination that the active role of sociology and public health fell in to the backround almost for two hundreds years as an account of the "all-mightiness" of education. Only at the beginning of the 19th century claim for social organization of public health and this time as a practical demand.

[46] *Morelly:* Code de la nature ou le véritable esprit de ses lois de tout temps négligé ou méconnu. Paris, 1755. 16 p.

[47] *Marx, K.—Engels, Fr.* Művei. (Works.) Bp. 1951. Vol. 3. The biological and social life of man, the problem and elaboration of their relation.

[48] *Pataki* op. cit. 66 p.

4. THE UTOPIAN SOCIALISM

The great generation of Saint-Simon, Fourier and Owen exert their activities at the turn of the century and subsequently at the first decades of the 19th century. Not only two centuries, but the differences of two social forms separated their activities from the early Utopists. The period of classical capitalism evolved by the trustful rationalism of enlightenment and the French Revolution possessed an adequate ideological philosophical and practical experience. The antagonism between hope and reality became wider and wider. *"Only those people were missing*—Engels wrote—*who stated this disappointment and they arrived at the turn of the century. Saint-Simon's 'Genevan Letters' were published in 1802, the first work of Fourier appeared in 1808, although the base of his theory originated from 1799, Robert Owen took over the leadership of New Lanark on the* 1st of *January in 1800."*[49]

On the contrary of the theoretical view of the forebears, Utopian socialists formulated their "messianistic theory" based primarily upon the social condition of the masses. Their aim was to solve existing social, political problems representing the interest of the suffering masses, of the working class of the early capitalism. While Plato, Thomas More, Campanella and also the immediate forebears imagined the alteration of state-forms, the Utopian socialists fought for the improvement of the social condition of one social class, namely the working class. Not only theoretically, but in a practical way as well—if it was necessary, by offering their belongings—they attempted to realize their ideas. In spite of the naivity of their imagination they had numerous followers, not only in Europe, but in the American continent too. Not only Fourier and Owen tried the long line of their faithfull disciples and students. In spite of the unsuccessful efforts they found a mass response, while the Utopias of forebears were isolated. The foreunners only dreamt of an ideal state, on the other hand Fourier and Owen fanatically believed in destroying poverty and ignorance by bringing to the daylight. Their ideas completely and detailed and they may build up the strong power of happiness and understanding. Their activity was also characterized by the purpose and attempt of realization.

The activity of Utopian socialists was the organic continuation of the inwardness of French enlightenment, encyclopaedists and the literary and sociological activity of "philosophers" who called themselves writer-philosophers. *Condillac, Montesquieu, Voltaire, Diderot, D'Alambert, Rousseau, Holbach, Lamettrie* were not only social-philosophers but also participants of the revolution of social sciences of this period. The scientific aspect of modern times was supported by a very young sciences; *biology*. The so far rigorous categories of the scientific way of thinking were broken up by the hydra—"habarnica"—*"rather a plant, but it nourishes like an animal, gemmiparous, like a plant and*

[49] *Engels, F.:* Anti Dühring. Bp. 1950. 264 p.

could be sliced criss-cross and a new single organism regenerates from each part..."[50] The discovery of Trembley gave a new direction of natural philosophy, the first step — the autogeny, Bonne's and the box-theories, as a result of preformation (théorie d'emboitement); the epigenetic doctrine of Wolff etc. — with their naivity all enhanced the development of biology. Evenmore, one of the first formulations of gen theory is the merit of Louis Moreau de *Maupertuies*[51]. In spite of all efforst the concrete natural sciences' biology, physiology and medicine were on a lower stage in France at the age of enlightenment. The fact that the French enlightenment after all became so internationally significant in the forthcoming natural scientific way of thinking, "*was not a consequence of the exact learning of biologists, but owing to rationalist hesitation and critical douts of philosophers, furthermore the achivement of the naturalist view.*"[52] This effect could be felt in the position of developing biology in the last decade of the century. The Utopian socialists, firstly Saint-Simon and including *Lamark,* who established the classical theory of phylogenetics, educated by the natural philospher *Cuvier,* the master of comparative anatomy and paleonthology; *Bichat,* who inaugurated histology; *Vicq-d'Azyr,* the brain anatomist; and finally *Cabani,* who discussed integral activity of spirit and body; their works were directed by the modern biological view. The biology became a weapon in the fight for the improvement of the society.

Saint-Simon (1760—1827), as a young man, already decided that he would study the development of human mind, and make an effort to help the perfection of civilization with it. Although no coherent theoretical work was done in his studies, following Plato's Utopia, he wanted to sommit state-government to scientist. According to physiology this got a primary part in the rank of sciences. He regularly attended the lectures of philosphers of the medical faculty and declared himself as a follower of D'Alambert, the father of the encyclopaedists. The encyclopaedists critizied the past, however Saint-Simon's aim was to organize the future.[53] His philosophical system attached importance to "sciences deal with the human being", namely the physiology and psychology, and these sciences must be "positive" like physics, chemistry and astronomy. In spite of his naivity, he devised a genial scientific research program, in which the union separated theory and practice came in sight.[54]

[50] *Benedek, I.:* Természettudomány a francia felvilágosodásban. (Natural Sciences in the Idea of French Enlightenment.) Bp. 1965. 10 p. — The name: "habarnica" was offered by *Grossinger,* János as a Hungarian name, *Réaumur* found better to call it octopus. This living creature is called hydra today.

[51] *Maupertuis, L.:* Vénus physique ou Dissertation philosophique á l'occaison de Négre-blanc. 1745. The work was published without name.

[52] *Benedek* op. cit. 33 p.

[53] *Saint-Simon, C. H.:* Nouveau Christianisme. Paris, 1832. – Hist last work was written in 1825.

[54] *Nyilas, V.:* Bevezetés. (Introduction.) Saint-Simon, C. H. Válogatott művei. Ford. Justus Pál. (Selected Writings. Translated by P. Justus.) Bp. 1963. 13 p.

Physiologist has the most important role among scientists, therefore he dedicated them the memories written about science dealing with the human being.[55] *"You are those all of scholars*—he wrote—*from whom I can get the most useful opinions and with whom I am able to unit my creative power for the sake of improving human destiny."*[56] To organize the universal society of European people and to improve human destiny only a scientific revolution would offer a possibility. First and foremost science dealing wiht human being *"shall be built up on physiological knowledge initiated into public education and people having been brought up on the breast of science, in their adult age will elaborate political questions with the same method to those used in different fields of physics for studying phenomenons belonging to relating sphere."*[57] Man can fully be known by scientific employment of physiology. In his dissertation written on the subject of science dealing with human being, he stated that in interest of development of sciences *Vicq-d'Azyr, Cabanis, Bichat* and *Condorcet* made the most important joint steps. Out of them he emphasized anatomy and fully examined the plan of Vicq-d'Azyr's pathological and physiological activity. It would be the duty of philosophers of the age—he quoted the brain anatomist—to taste this branch of sciences, because comparative anatomy leads nearest to learn physiological phenomenons.[58]

The base of philosophy are astrology and physiology, because these help to study the "small" and "large" globe—as Saint-Simon has it. Astrology means the scientific cognition of universe; *physiology is the examination of universe in small extent, because above all the physiological idea of human understanding is if we regard human brain like a small machine, which gradually fulfils whatever happens in the universe.*[59] The physiologist deals with phenomenons proceeding positively in organic bodies. When he stated the task of internal diagnostics, he also committed to the charge of physiologist, that the physiologist's duty is to find out what the patient feels today and in what condition he will be tomorrow.[60]

Furthermore the only aim of society is the best utilization of knowledge piled up by science for the fulfilment of human needs. The natural philosophical idea of the turn of the century did not break away from the abstract metaphysical view. Saint-Simon wrote in 1802: *"...physiologists have to dismiss philosophers and moralists from their circles, like astronomy and chemistry, which*

[55] *Saint-Simon, C. H.:* Mémoire sur la science de l'homme. Paris. 1859. Enrantin. The study was written in 1813.

[56] *Saint-Simon* Selected Writings op. cit. Memoirs in the subject of science dealing with human being. Letters to philosophers. 158 p.

[57] *Saint-Simon* op. cit. 160 p.

[58] *Saint-Simon* op. cit. 89 p.

[59] *Saint-Simon* op. cit. The history of my life. 38 p. – The original title of the work consisting of four fragments: Histoire de ma vie. Written in 1808, 1809, 1812. Translation on the basis of Dentu publication, in 1868.

[60] *Saint-Simon* op. cit. The Letters of a Genevan to his contemporaries. 63 p. – Original data and title of publication: Lettres d'un habitant de Géneve à ses contemporains. 1802. The author's first work.

got rid of astrologers and alchemists." Philosophy has its legality for existing until it points out correlation between physiology and psychology. It is an early trial of philosophy, etics and metaphysics to systhematize observed facts in general order, because order has not been completed in physiology yet.[61] He outlined the structure of the industrial order directed by science in "The Organizer".[62/a] Among the chambers constructed in the project the first is the "Divice Chamber" which would annualy prepare a programme of common works. Its members: 50 engineers, 50 writers, 25 painters, 15 sculptors or architects and 10 musicians. Among the 300 members of the "*Examining Chamber*" would take place 100 physiologists, 100 mathematicians and 100 physicists. Their task is the most important because they control the above mentioned members and direct public education. Finally, the members of the "*Executive Chamber*" are the leaders of each industrial branch, this corresponds to the old House of Parliament.

Saint-Simon regarded the base of the scientific revolution propagated by him in the comprehensive public education, which is due to satisfy the technical and work organization needs of the "industrial order" at an up-to-date scientific level to the advanced stage—the emphasis is on attainment of the natural scientific subjects. He separates artists, scientists and manufacturers according to qualities innate with men, i.e. symphathy, rationalist capacity and practical materialist activity.

The main desire of Saint-Simon's life, creation of a philosophical and scientific team, was formed only after his death in the movement of Saint-Simon's school. Among his co-workers were also independent minds—Augustin Therry, Auguste Comte—. On the contrary of Fourier and Owen, his influence remained only theoretical (Bazard, Rodrigues, Enfantin).

The other representative of the French Utopian socialism, Charles *Fourier* (1772—1837) was deeply separated from his contemporaries, as he was not stimulated by the encyclopaedists, but by Rousseau. While Saint-Simon dreamt of an absolute power of scientists and industrialists, Fourier thought that freedom would produce the forthcoming society. Saint-Simon wished to continue the work of philosophers and approved of revolution destroying all what had to disappeare; Fourier wanted to commit the writings of philosophers to the flames and regarded revolution as defeat of progress. To his aversion for revolution also personal experiences contributed significantly, because as a result of speculative craze in 1793, he lost his inheritance of 40 000 livres and he had almost been executed. Nevertheless, Fourier was a practical man. He was the first, who not only created a state form held ideal theoretically, but wanted to realize it by all means. Already in his first work, in 1800, he introduced Newton's gravitation theory to mind and spirit. The dinamic force of social progress and the base of true harmony on which he built up

[61] *Saint-Simon* op. cit. in 60th annotation. 64 p.
[62/a] *Saint-Simon, C. H.:* L'Organizateur. 1819–1820.

his phalanstery later on, was the law of gravitation of inclination, the "attraction passionelle."[62] In 1882 the phalanx was finished with its system and structure. Among the dry data and tables "The Theory of Universal Concorde" he painted in a colourful and fascinating manner the life of phalanstery, the life of elderly and young people living with music and poetry, making one celebration after the other in the splendid phalanstery palaces, the beautiful "vestalinas", the paradise of children and the joy of work in the fields.[63] Their time-table and roles are nearly like in barracks, they fix the time of everything, even of love. Nevertheless, *"freedom is such as having not been dared to think of"*—Fourier said—because people enter voluntary and enjoy full freedom inside the order.[64]

However the encouraging and cheerful life in the phalanstery translated into practical life by Imre Madách in his work "The Tragedy of Man" took a frightening shape confronting past and present in his imagined Utopia.[65] In Madách's imagination this new society meant that all activity, wish and thoughts were uniformed within narrow compass and forced into previously classified predestinated patterns. Though Adam would follow rationalist communism. Society such as:

"...I dream of a Community,
To guard, not punish, to inspire, not check,
Endevour, by a great Co-operation,
Such as the Mind of Science could conceive
And o'er whose order Intellect would
watch."[66]

Yet he is disappointed, because he does not find character, strength or independent thoughts, furthermore the pleasure of danger in anything. At the same time science created a dull school for children, instead of happiness. Plato has to kneel down on peas being wrapt in thoughts, Michelangelo is condemned to carve chairlegs and is punished for untidiness of his workshop.[67]

Is really everybody born so equally by that society? Was Fourier working hard for the creation of a society without characters? Imre Madách was right regarding those practical problems that overorganization and extreme direction

[62] *Fourier, Ch.:* Théorie des quatre mouvements et destunées générales. – Firstly it was published nameless in 1808, or rather the author vas noted as "Charles".

[63] *Fourier, Ch.:* Traité de l'association domestiques agricole ou attraction industrielle. 1822. Title of following publications: Théorie de l'unité universelle.

[64] *Bebel, A.:* Charles Fourier élete és eszméi. Ford. Haraszti Sándor. (Life and Ideas of Charles Fourier. Transl. S. Haraszti.) Bp. 1962. We write about his system on the basis of this work, because of the difficult terminology. The analysis was carried out by Bebel using the publication of "L'harmonie Universelle et la Phalanstere" in 1848. This publication was compiled by Fourier's followers.

[65] *Madách, I.:* Az ember tragédiája. (The Tragedy of Man.) 1860.

[66] *Madách, I.:* Az ember tragédiája. Összes művei. (The Tragedy of Man. Collected Works.) Vol. I, Bp. 1942.

[67] *Dános—Kovács* op. cit. 330–332 pp.; see *Bebel* op. cit. 15 p.

in life of a community stop individual development. Conversely, Fourier was looking for the device which can save mankind from poverty, misery, oppression and boredom. This device—after Newton—is the law of gravitation of human inclination *"adapting to all human activities and works and this has been proved of associations brought about by the union into homogenous series."*[68] According to Fourier the happiness of the mankind will finally arrive after realizing the phalanstery system which will be stabilized all over the world.

The phalansteries are organized communities on a cooperative base, their aim is to destroy the existing society.[69] In practice this phalanstery is an organized community with 300 families, a coexistance of voluntary association of 1800 persons all together. The phalanstery itself is one mile-square area suitable for different lines of cultivation. The members are share-holders and without shares according as they had lands brought with themselves. He took a stand on maintaining differences in property, because in his point of view man was against equality in every respect. Work done in phalanstery is the base of society, which *"produces the physical balance needed for health."*[70] Health is necessarily damaged if man is compelled to spend 12 hours daily with the same job, which does not exercise the different parts of body and mind in due measure. For preventing occupational diseases by all means sanitary regulations are needed. *"The sanitary regulations prescribe permanent variousness in work for the body and for the mind as well; because this is the only way to maintain the balance and activity for man."*[71] By the task of organizing productive work Fourier came to the perception of the importance of organized public health. In fact he was the first, who emphasized the social significance of public health organized by the state. The main task of this control is *to regulate variousness well* in both of physical and mental inclination.

Saint-Simon and the view of mechanical materialism explained the reason of human activity and behaviour from a material base and from the biological-psychological attitude of men. On the contrary Fourier, *the anthropological-psychological* motive power of his social philosophy formulated in a "passion-theory". By examining passions he followed the line of Descartes and Spinoza and the French materialists. Similarly to the French materialism, he thought that society developed by the complicated and contraversial game as well as by its connection and mutual effect of passions. However, their ways parted in the interpretation of origin and nature of passions. According to Fourier, passions are innate with us, they are unchangable properties in every man and they develop in good or wrong direction depending on quality of social order. He devided human passions into three centres of gravitation, the first "luxisme" is an instinct satisfying in the five base senses, of which permanent and complete living out secures health. The second main instinct is "grouppisme"

[68] *Bebel* op. cit. 46 p.
[69] Phalanx: A formation of infantry carrying overlapping shields and long spears developed by Philip II of Macedonia and used by Alexander the Great.
[70] *Bebel* op. cit. 108 p.
[71] *Bebel* ib.

namely the instinct of group, they are friendship, ambition, love and familiar nature. Finally "sériisme" is for satisfying mind. Its competition and racing, "papillon", the passion of variousness and desire of variety, and "composité" the emotion enthusiasm, extasy and creation. The main reason of human misery is the neglection of group and series instincts. The law of natural order is the law of series. *"Harmony is born from series"*—Fourier's epitaph propagates his thesis even today. The demand of variousness orders to have full freedom, for women and men as well. He regulated love affairs according to the relationship of lover, begetter and hushand, first of all for protecting women from disappointment, secondly the husband of sterile women, who would like children, from the pressure of circumstances followed by unforeseeable consequences. Children parcipiate in public education, so their instincts are observed and after that they are put into groups. Imre Madách gave voice in his "Tragedy" of the practical antagonism between virtual freedom and compulsion of guidance. Adam is seeing with horror that in the phalanstery the child is taken away from his mother for public education. The mother bewailing the loss of her child is deprived also of love, because:

"A romantic man and a nerve-ridden woman
Beget weak offspring. They' re unfit to
mate."[72]

In the field of eating the art of cooking flourishes, because it is also ordered by variousness. A special attention is paid to cooking by the people of the phalanstery; in their activity production of vegetables, and fruits, animal husbandry, poultry-farming, fish-breeding, stock of game and food processing as well has great importance. Fourier planned the share of preformed work not to individuals but to series. The distribution may be done according to three points—necessity, usefulness and the convenience of job. In the class of necessity Fourier put to the first place physicians and surgeons, hard labour workers, whom he paid best. The social position of physicians is completely different in the phalanstery as in that of civilization, because *"they earn their income not according to the number of patients but to healthy people."* So it is their interest that people should remain healthy.[73] Compairing with the ancient Plato, the importance of medicine and public health significantly increased in the Utopian states, accordingly it developed from the exact to empiric tendency.

Besides medical profession the most responsible is nursing and feeding of infants and youngest children, and in this issue there was an uniforme attitude in the Utopian literature. Calling in permanent medical supervision, nurses bring up children in series, formed by the temper and character of children and they help to develop moral and mental capacities of children making use

[72] *Madách* op. cit. 677 p.
[73] *Bebel* op. cit. 118 p.

of their life of instincts. Regarding naturalist education his view was similar to that of Rousseau, however he considered education as an active factor and rejected those educational principles, which are spontaneous and neglect purposeful educational interference.

Significance of Fourier is, that he recognized that childhood has its own, proper features and one has to reckon with them during the organization of education. His concrete child-psychological observations almost exclusively give a list of children's external behaviourial marks. Inspite of that his statements are remarkable, especially considering that scientific study of children-psychology was at a very early stage in this time.

Fourier's plan for establishing phalanstery was a failure during his lifetime and he was kept on record by cynists as "a lunatic of Palais Royal". At the same time English contemporary, Robert *Owen* (1771 – 1858) found followers not only after his death, but with the help of his fortune and realistic sense, just at dawn of a new century on the 1st of January 1800, he could open his community for working in New Lanarc, where he was able to put on trial the practical reality of his principles. He gave a complete new aspect to Utopia; practical soberness so far unusual, practical sense a great organizing capacity and the renewing purpose in spite of all failures for the realization of the propagated principales. The system of Owen was also trilled with a monomaniac messianistic fanatiscism, although the compelling force of business-minded atmosphere of ripe English capitalism, by the greater discipline of phantasy and among the fingers of practice Fourier's coat has fallen.

Since the theoretical sutdies meant the smaller part of Owen's activity, which were connected to permanent practice and to organization and direction of the community in New Lanarc, therefore treating his theoretical work in the frame of this study is only possible at a limited extent. The development of his work fell on practical field, it should be worthwhile to deal with the fate of this and of the other experimental communities.[74/a]

Beside the numerous dissertations, pamphlets, and studies, he summerized his ideas in *"The Social System"*, written in 1820, in which the experiencies of twenty years had been collected.[74] This period of his lifetime meant the highest point of his theoretical and critical activity. Those written later on, were only repetition and amplification of his thoughts. Inspite of all his empirical inclinations he reached false conclusion, because confronting by division of labour he wanted "to reform" sociological system, when he set *the principles of fulfilment* of all needs against the abstract economical principles of money-making more sharply than ever in his previous experiments.[75] From the sociolog-

[74/a] More important sources used relating to *Owen*'s life. – Life of Robert Owen. 1857 – 1858. (autobiography); *Muckle, F.:* Die Geschichte der sozialistischen Ideen im 19. Jahrhundert. Leipzig, 1909.; *Simon, H.:* Robert Owen. Sein Leben und seine Bedeutung für die Gegenwart. Jena. 1905.; *Dolleans:* Robert Owen. Paris, 1907.; *Podmore, F.:* Robert Owen. London. 1906.

[74] *Owen, R.:* The Social System. New Harmony Gasette. 1826.

[75] *Dános – Kovács* op. cit. 290 p.

ical point of view, his conception was one-sided and a mistake, however regarding the practice of social policy—since its primary aim was the general and comprehensive satisfaction of human needs—as a result of sociological evaluation concerning our present study, important problems were put into the centre, i.e., the problems of industrial hygiene and medical service. His view is similar to those of Utopian socialists, that he regarded human character partly as a result of the organism and education, partly as a dependent of circumstances. In accordance with his practical sense he wanted all his ideas to be established immediately. For example in 1809, he prepared a plan of an institute for improving characters to make use regularly of experiences.[76] The immediate function of it would have been to educate and prepare workers from their childhood for cooperative work. His idea is really a prophetic one, if we take into account that in our days the function of institutes for talent scout has been very much increased.

Owen's plans were immediately followed by social practice. In 1802, seeing "Moral and Health Act", the protective labour legistlation did not succeed, he was engaged in the preparation of industrial legislation. He proposed his motion at a meeting held in Glasgow in 1815, in which he did not forget about industrial hygiene and medical supervision inside regular industrial control.[77] In the following year when a meeting was held on account of the increasing poverty, Owen, as a member of the delegation, sent his lecture to a parliamentary commission consulting the problems of poverty.[78] In his proposal he emphasized the importance of hygienic establishments dealing with the set up of colonies for unemployed.

His manifold socio-political activities lead Robert Owen on the way of philanthropism to the farest. According to his conception—one of his reviewer called this aptly "patriarchal philanthropism"—the indispensable condition for preparation and organization of the new society are fatherly tutelage and schoolmaster like disciplines.[79]

Owen found followers especially in the American continent, where similar experiments, mainly under the guise of religion, had already been carried out. Among them the most prominent is the pietist sect, established in Pennsylvania by *Georg Rapp*, a Lutheran farmer from Würtenberg, which was bought by Owen in 1824, after it had been dissolved and at this very place the colony of New Harmony was settled.[80]

The activity of Utopian socialists is brought into the lime-light by sociology not on account of their practical consequences, but their influences on the

[76] *Dános–Kovács* op. cit. 280 p.
[77] *Dános–Kovács* op. cit. 283 p.
[78] *Owen,* Robert: Committee of the House of Commons on the Poor Law. Parliamentary Papers. 1816.
[79] *Dános–Kovács* op. cit. 279–282 pp.
[80] *Dános–Kovács* op. cit. 292–293 pp.; *Bölöni Farkas, S.:* Utazás Észak-Amerikában. (Journey in North America.) Kolozsvár, 1834. 231–248 pp. – He reported the life of rappist colonies with the truthfulness or a witness.

succeeding generation. Their state-ideas are not only isolated desires as in the cases of their forerunners, but numerous followers, furthermore the instituted communist communities mark their ways. Although their experiences ended in a failure in a more or less short time, the impact of these experiments were significant during the whole century. There was another experiment already in the middle of the 19th century, when an initiative of *Etienne Cabet*, a Parisian lawyer, which is recorded by the Utopian literature as "the Icarian communism." József Eötvös stated in his essay about the concepts of freedom and equality: "*Our century educated the long line of Utopias as well.*"[81]

The desire of mankind lasting since the ancient times to our days, to create the equal and comprehensive happiness in the most perfect state, did not cease in the 19th century.

The determinative Utopian state novel of our century is "A Brave New World" written in an ironic intention at the beginning of the 1930-ies by *Aldous Huxley*, the English novel and essay writer.[82] Huxley is, however, completely disappointed. The novel is a bitter satire of state power and technical civilization dominating increasingly above mankind, the very phalanstery world, where man is created in flash and his mental and physical capacities are conditioned, according to the interest of state. The fact that this "biological infernal machine" was not only an Utopia is supported by the biological revolution of our time, Georg Robert *Taylor* reported about its development by leaps and the general threat of consequences in the last years.[83] In the introduction the author referred to the alteration of law concerning organ transplantation and cited Sir Peter Medawar, director of the National Institute for Medical Research, London, who raised the possibility, that in five years time the transplantation of heart, liver and lung may be introduced into general medical practice. "*What will the next twelve years hold in store?*"—he asks.

30 years later Huxley wrote an Utopia, which ended in a tone of optimism, but it was rather a shining idea of an imagined happy society to believe in its realization.[84]

[81] *Eötvös, J.:* A XIX. század uralkodó eszméinek befolyása az álladalomra. (The Influence of Dominating Ideas of the 19th Century on State.) Vol. 1, Bp. 1902, 81 p.

[82] *Huxley, A.:* A Brave New World. 1932. (Hungarian in 1934.)

[83] *Taylor, G. R.:* The biological Time-bomb. London, 1970. (Hungarian: Biológiai pokolgép. Transl. P. Friedrich. Bp. 1970.)

[84] *Huxley, A.:* Island. 1962. After the Second World War, in 1948 the author wrote another Utopia, entitled "Ape and Essence". 1948. The story takes place in a world destroyed by atomic war in 2001, where mankind relapsed into the level of animal existence.

THE IMPORTANCE OF SANITARIAN UTOPIAS

Until the age of enlightenment in Europe – moreover until the middle of the 19th century in East-Europe and in Hungary – the idea was predominant in the fields of sciences, that *"the only mission of state is to secure social order, the rest has to go as it can."*[85] The development of natural sciences and technique forced the state to be not only "the guardian of order", but also the promoter of progress. In the political consideration of the 19th century *the acknowledgement of interdependence, economic life, public education and public health* was generally enforced, and this contributed greatly to the success of a modern civil state system.

This issue was realized during the period of Compromise of 1867, when *József Eötvös* was the Minister of Education (1867 – 1872) and later on, when *Ágoston Trefort* became Eötvös's successor (1872 – 1888). They acknowledged that *public education and public health are also matters of economical questions, which determine the physical and mental condition of man, the most important factor of production.*[86] In well-developed capitalist countries—in England, France, Italy and in the German states—almost until the end of the 19th century we can see sanitarian orders, which were not organized by states, only up by private enterprise. The practical importance of hospitals has increased during the last century, when specialized natural sciences became the basis of medical treatment. There was an unsurmountable gap between the first great discoveries of medicine in the 17th century—the discoveries of blood circulation, lymphatic system and micro-organisms—and the every day practice of medical treatment. In the field of medicine between the 16th and the 18th centuries were created by great scientists often independent from hospitals or universities, or sometimes these scientists were not even physicians.[87] We cannot discuss about real empiric medicine, till hospital did not become the most important basis of medical treatment. Only the acknowledgement and utilisation of educational work of the hospital lead to practical medicine. *"During the education of hospital ward professors of medicine studied how to use natural scientific way of thinking for the sake of medical treatment."*[88] However, the generalization of Hermann Boerhaave's (1668 – 1738) epoch-making method during the 18th century, was kept back by the several webs

[85] *Kossuth Lajos* iratai. (Writings.) Vol. X, Bp. 1904, 304 – 305 pp.

[86] *Antall, J.:* Absolutism and Libaralism in Health Policy in Hungary. In: Medical History in Hungary 1970, (Comm. Hist. Artis Med. Suppl. 4.); ib. Eötvös József művelődéspolitikája és a középiskolai reform előkészítése. (Cultural Policy of József Eötvös and preparation to reform secondary education.) Magyar Pedagógia. 1971, No. 12, 159 p.; Ib. A pesti orvosi iskola és a centralisták egészségügyi politikája. (Medical School of Pest and Sanitarian Policy of Centralists.) Orvosi Hetilap, 1971, 112, No. 19, 1088 p.; *Trefort, Á.:* Beszédek és levelek. (Speeches and Letters.) Bp. 1888, 143, 147, 180 pp.

[87] *Vekerdi, L.:* A kórház története. (The History of Hospital.) Kalandozás a tudományok történetében. (Adventures in the History of Sciences.) Bp. 1969, 439 p.

[88] *Vekerdi* op. cit. 440 p.

of education, science, "state-raison" and philanthropist ambitions entwined the institute of hospital. So clinical medicine, built up on a complex base and forming world concept, was triumphant in the Continent only in the 19th century as well.[89]

The actual importance of Utopias firstly and concretely is not in the effort tending to the basic alteration of the constitutional form, because their antagonism is apparent in practice straight away. According to József Eötvös, the apostle of Hungarian liberalism, the system of individual freedom is dissolved in the collectivist view.[90]

Indeed, the happiness of an individual is not attainable by the restriction of freedom, yet centuries before in the issues of social reforms almost in a "prophetic" manner tasks were pointed out, which were thoroughly acknowledged only in the 19th century. The essential acknowledgement, which was put into words by Ágoston Trefort: *"the nation, which has science, property and health will receive everything she can receive by her inclinations and talent given by nature,"*[91]—was not born firstly in the mind of liberal politicians of the 19th century, but this was the principle of propagandists of iedeal state. They did not name concretely the public organization of public health and education, but having in view the creation of an ideal state partly by education and partly by insuring health at any means, they thought of the problem spontaneously.

The analyzed state novels and theoretical ideas make sure, that the above mentioned two tasks lead every idea from Plato to the Utopian socialists. In a state built up on sciences and directed by scientists solution of public education was essentially the first task, because such a state demanded total aquirement of sciences. The direction of public education as a main task of government appeared in this way. Already Plato regarded health as the pillar of happiness. As a consequence a considerable insurance of health is needed to organize public health. Accordingly the other most important task of state adminstration was represented firstly in Utopia. Race preservation controlled by state—in the appearence of healthy descendents—also served public health indirectly.

Plato set less value on medicine, he regarded it only as an indispensable appuntenance of a "wrong state". We can already find a developed public health in Thomas More's Utopia. The hospital system comparable to towns, well-equipped with medical instruments just the same as the "pavillon-system" institutional in building of hospitals at the beginning of the 19th century. Campanella mentioned among his departmental ministers the physician, as leader of public health. Actually, one of the main part of "The City of the Sun" 's management was the direction of public health and public education, namely this ministry covered the tasks of training of children and sanitarian problems. The comprehensive teaching and the general information of medicine in an illustrated manner—as a basic compulsory reading in Utopia, and epi-

[89] *Vekerdi* op. cit. 444 p.
[90] *Eötvös* op. cit. 93 p.
[91] *Trefort* op. cit. 145 p.

graphic illustrations on the city-walls of "The City of the Sun"—were parallel to the medical information of our times. *"The anatomical and physiological attainments developed faster in the 16th and in the 17th centuries, since the ancient world at any time, however this development did not manifest itself in medical practice and in hospital system"*—states one of the well-informed writers on the matter.[92] Campanella assigned an important part to anatomist as a leader of an independent science, beside physician, which proves that he looked far into the future. The empiric view of Francis Bacon proceeded by the birth of empiric medicine hundred years.

Furthermore, an interesting observation is, that exactly at the time of the rise of medicine—during the 17th and 18th centuries—the practical initiations of Humanists in the field of public health were driven back by public health were driven back by public education. Only the French Utopian socialists, under the influence of natural scientific view of French enlightenment placed medicine to its right place. Saint-Simon acknowledged physiology and anatomy as essential sciences and Owen with his practical common sense urged the solution of medical attention and industrial hygiene. If we take into consideration that Owen was nearly a contemporary of *Johann Peter Frank* (1745 – 1821), the pioneer "of medical surveillance",—public health social hygiene and sanitarian organization of today—than Owen's demand was especially progressive.

At last the general observation, that the development of sciences takes place in mutual action and connection with each other it refers to—if only in an indirect manner—the formation of the theory and practice of medicine. General philanthropism, which influenced several Utopian ideas from Humanism, reminds of the metality of public health and hospital system of the Middle Ages. *"During the centuries of the Middle Ages the concept of compulsory social welfare was born for the sake of sick persons,"*[93] which is asserted in nursing and support of elderly persons and often in care of the sick (Thomas More). The different hospitals, poorhouses and leprosariums of the Middle Ages —without medical assistance—created a relatively active and well-balanced sanitary system. And this constitutional philanthropism became the base of both of hospitals and the following development of public health and the enthusiasts of state-ideas were also lead by the same humanist and socio-political theories.

[92] *Vekerdi* op. cit. 431 p.
[93] *Vekerdi* op. cit. 430 p.

STATE INTERFERENCE AND THE DILEMMA OF LIBERALISM IN THE FIELD OF MEDICAL TRAINING AND PUBLIC HEALTH*

by JÓZSEF ANTALL

The problem of state interference is one the most debated questions of political science and policy-making. It has been discussed from various aspects: in economics, politics, cultural policy and health policy the last two hundred years have produced an abundant literature bearing on it. The culmination of this debate fell between the end of the 18th and the middle of the 19th century when liberalism was born from the ideas of the French Revolution, when liberalism formulated its intellectual system, in opposition to absolutism.[1] (Here we do not wish to deal with the role of the state in history in general; this has been done from a different aspect by another article in this volume.[2]) The debate revived after some less productive years at the threshold of the 20th century when the decline of liberalism and the growth of the various trends of socialism, together with the tension of unsolved social questions, once more brought it in the lime-light. In the last decades, including the present, the form and depth of state interference remained a key-problem in political literature and practical government—naturally the forms being different according to the character of the various social and governmental structures, but showing similarities even in diametrically different cases. Therefore it appears worth while throwing some light on the historical roots and development of this question in medical history, mainly in Hungary, without claiming to any finality or completeness.

LIBERALISM AND STATE INTERFERENCE

Studying the history of state interference[3] one is led to the conclusion that —like in many other cases—there is no straight course in its evolution showing a clearly increasing or decreasing trend. According to Herbert Spencer, who wrote it not only once but made it one of the fundamental principles of his

* The present article only summarizes the major questions. The detailed elaboration of the subject by the light of European, overseas and Hungarian liberalism will be done in another work to be published later.

[1] W. G. Runciman, Social Science and Political Theory. Cambridge, 1965. 22.

[2] M. Vida, State-Models (Utopias) and Sociology of Medicine. *Comm. Hist. Artis Med.* Suppl. 6. (1972), pp.

[3] B. Somló, Állami beavatkozás és individualizmus. (State Interference and Individualism.) Budapest, 1903. p. 140.

sociology, we are moving from greater to smaller degree of regulation. This he considered to be the line of progress and concluded that the ideal state of affairs is when state interference is entirely lacking. The adherents of the two opposing views, those in favour of increasing or decreasing regulation, tried to support their theses with the evidence of ethnography showing what degree of interference existed in primitive societies, in earlier social formations, and by analysing the history of human society wanted to register how regulations and state interference came to cover the various fields of human life. Now it is beyond any doubt that parallely with scientific and technical progress, with the development of human society state interference is on the increase. In primitive and other earlier formations only a much smaller part of life was regulated than in modern times. Of course, this development was not smooth but was repleted with ups and downs.

When the focus of our attention is directed at the life of the individual, at the relation of society and freedom[4], or in other words the problem of individualism and collectivism,[5] much depends on our approach. It is true that in earlier formations the conduct of the individual was often prescribed by strict rules, religious codes, which obliged him to follow a given pattern of behaviour. It would be easy to quote endlessly the various forms of regulations, which today sound all too ridiculuous.[6]

In modern life, however, regulation of state interference has reached such a degree, it penetrated into our consciousness so deeply that we regard it as natural, obvious, necessary, and this interference regulating a very large sphere of life is not felt a burden but it is even demanded. The feeling of burden, "opposition" arises when compulsion is involved or felt. If one has an aversion to washing and is forced to clean himself he regards this interference unpleasant, but if he requires it, then he will feel any obstacle in its performance as unpleasant interference. So it is an indisputable fact that together with the growth of mankind and the spread of civilization regulation, state interference and the much abused bureaucracy is constantly increasing. Sometimes bureaucracy is the consequence of the decrease of force applied, since the settlement of a case needs a large official machinery when there is no bludgeon or pistol to speed up the process of justice.

It follows that liberal political philosophy, the idea of individual liberties emerging in the age of enlightenment, represented not simply an extreme reaction to state interference but rather reacted against open and unequivocal, forcible and absolutistic state (or social) interference. It is well known that in defence of extreme liberalism, unbridled individualism, the analogy of Darwinism was evoked. Furthermore it can be observed in the study of any epoch that there is always a tendency to apply the prevailing school of thought of the period to a numberless fields of life, with or without good reason or

[4] Ralf Dahrendorf, Gesellschaft und Freiheit. München, 1961. 321.
[5] E. Barker, Principles of Social and Political Theory. Oxford, 1963. 268.
[6] D. G. Ritchie, The Principles of State Interference. London, 1896.

result, on a theoretical basis. This is the well known case of mistaken generalization. Medical history, too, offers examples to this. In the decades of the liberal protest against state interference medical non-interference, "natural cures" flourished, and there was a demand to give all medical trends (e.g. homoeopathy) a free chance to try to apply their methods.

It is obvious that complete refrain from medical interference, like *laissez faire, laissez passer* in society and politics, was a reaction against erroneous, perhaps even forcible medical interference. Such notions should therefore be treated as criticism, corrective endeavour, but not as a standpoint of general and lasting value. They represent a transition between discarding fallacious practice an adopting the right one. Therefore in defining and critically examining the extent of state interference, not simply the range of the regulated field should be considered, as that is determinded by scientific and technical progress. The object of the investigation should be the justified or excessive extent of the regulated field, whether submission is voluntary of forced, whether interference is imposed or naturally accepted. Usually regulation is necessary when the inordinate state of something creates a problem and calls for regulation. When as a result of innate social demands and development, under favourable economic conditions, the arising problems are solved, there is rarely any need for central, state regulation. It is by no means accidental that through the centuries Eastern European development showed a much greater number of etatist, absolutist tendencies than the more developed and more complex progress of the West.[7]

In Western Europe even within identical social structures the attitude to state interference may differ, partly on the basis of existing actual interests, partly based on the traditions of political philosophy.[8] In France the economic philosophy of Colbert always had a strong impact resulting in the acceptance of state interference, "support by the state", whereas in Britain the traditions of free trade were firmly rooted in public thinking, sometimes even to the detriment of real interests. Arriving from Eastern-Central Europe the great Hungarian statesman Lajos Kossuth (1802—1894) contrasted the English and French models, administrative centralism versus the policy of self-government, when weighing the various systems in his exile. It can be also noticed that in countries which were for a long time under foreign rule there emerges a negative attitude to all administration, a certain lack of confidence in anything official, coming from above. In these peoples the spirit of sterile opposition may become part of the national character, as it happened with the Hungarian and the Polish nobilities. (Of course this is still more attractive then the servility of the broken backbone, which may also be the result.)

Thus state interference put the adherents of liberalism into a dilemma in the field of medical training and public health, too. The memory of absolutism

[7] J. Antall, The Birth of the Medical School of Pest and the Centralists. *Comm. Hist. Artis Med.* 57—59. (1971). p. 173.

[8] I. R. Simon, Philosophy of Democratic Government. Chicago, 1961. 72.
D. Mathew, Lord Acton and His Times. London, 1968.

and foreign absolutist government created an obstacle in the way of any interference, even when it had progressive aims.[9] The English model of social cooperation, association, and spontaneous action found more sympathy than any submittance to reasons of state. But on the Continent, and especially on the ground of Eastern and Central European reality, even those devoted to liberalism had to admit the necessity of interference, especially in the field of applied politics, such as public health and cultural affairs.[10]

THE IDEAS OF LIBERALISM AND PUBLIC HEALTH IN HUNGARY

The development of Hungarian statehood was greatly retarded by the collapse of the mediaeval state in the Battle of Mohács (1526) and the ensuing wars against the Turks, followed by the fights of the Estates for independence against the Habsburgs. The state was legally so restricted, its functions so much curtailed that there were many who doubted even its very existence. That accounts for the significance of the Age of Reforms (1825—48) when a programme was drawn up advocating social transformation, national independence and the creation of a modern state machinery. Among the forerunners of liberalism were József Hajnóczy, the martyr of the "Hungarian Jacobins" (executed in 1795), and Gergely Berzeviczy, the follower of Adam Smith, but the greatest figures of liberalism in Hungary were the leading statesmen of the Age of Reforms: István Széchenyi, Miklós Wesselényi, Lajos Kossuth, Ferenc Deák, József Eötvös, to mention just the best known ones.

In practical politics the greatest were Kossuth and Ferenc Deák, these truly professional politicians, who were able to fuse their ideas into a political programme and in its implementation could both incite their followers or keep them back, according to the needs. Széchenyi was a more complex, perhaps greater personality, but in the open forum as a professional politician he could not compete with his opponents. In this great epoch, and indeed afterwards, around the Compromise of 1867, the theoretically and politically best trained and most articulate group of Hungarian liberalism was formed by the circle of József Eötvös and Ágost Trefort known as "centralists" of "doctrinaires". Although their direct influence was more or less restricted to the elite, to a small number of intellectuals, and did not prevail in the political arena, their ideas left their imprint on many institutions.

Their leader, Eötvös (who was Minister of Cults and Education both in 1848 and in 1867 and distinguished himself as author, political philosopher

[9] J. Antall, "Absolutism and Liberalism in Health Policy in Hungary." In: Medical History in Hungary, 1970. *Comm. Hist. Artis Med.* Suppl. 4. p. 147.

[10] J. Antall, "The Emergence of the System of Modern Higher Education in Hungary 1848—1890". *Comm. Hist. Artis Med.* 1969. 51—53. p. 61.

and statesman) was in contact and correspondence with such great representatives of liberalism as John Stuart Mill, A. de Tocqueville, Montalembert, and although there is no trace of any personal contact, unquestionably was intellectually kindred in spirit to Lord Acton.[11] They were both marked by a fear lest liberalism should turn into radicalism and were opposed to the emerging socialistic-communistic tendencies. Their proposed cure against revolutionary radicalism was the raising of the cultural level of the people and the ensuring of its welfare. They adopted the theory of social balance and advocated social reforms in order to prevent social upheavals. In Hungary one can recognize the influence of liberalism in the 1840's in the national aspirations, reform proposals, economic demands (e.g. for the developing of industry) and also in cultural policy and philanthrophy. There are speeches on the penal code, prison conditions, pauperism, infant schools, but health policy seems to have failed to raise too much interest. Ferenc Bene, one of the most eminent physicians of the Age of Reforms noticed this and called for a comprehensive reorganization of public health affairs at the Itinerary Congress of Hungarian Physicians and Naturalists in 1841. In 1845, at another such congress, the university professor Pál Bugát pleaded for the making of a Health Act, for setting up a governmental department in charge of health affairs. Strangely enough it was the field of public health that became the last to form an integral part of the programme of liberal reform. The initiative of one or two outstanding physicians could not have the desired effect, and it was only through the emergence of a medical school in Pest around the personality of János Balassa that the Hungarian liberals, first of all the centralists of Eötvös, who maintained a close personal and intellectual relationship with the leading figures of the medical school of Pest,[12] formulated a programme of reform in public health affairs.

We have already mentioned that in spite of the general political opposition of absolutism and liberalism in some periods their practical, applied policies showed resemblance, for instance in education and public health. The actual contents of the policy followed in a certain field is determined by the demands and technical potentialities of the age, while ideological considerations may fall into the background in matters of practical implementation. This can be observed in Hungary when the physician reformers of Vienna, who in spite of their sympathies felt towards the Austrian liberals entered the service of neoabsolutism in the 1850's, though they held similar or identical views on the questions of science policy or medical training with the Hungarian liberals who were forced into passive political opposition. Indeed it can be even maintained that the "enlightened despotism" of the 18th century or neoabsolutism in the middle of the 19th followed and implemented progressive ideas in more than one

[11] A. Balla, A liberalizmus történelme. (The History of Liberalism.) Budapest, 1926. pp. 300–360.

[12] J. Antall, Sándor Lumniczer and the Medical School of Pest. *Comm. Hist. Artis Med.* 1968. 45. p. 75.

question of practical policy, thus even forestalling individualistic liberalism that abhorred the idea of state interference.

It is by no means insignificant that one of the representatives of classical liberalism, Lajos Kossuth, revised his views when the circumstances convinced him of its necessity. In economics at first he was the supporter of free trade but under the influence of Fr. List he later became the adherent of protectionism and wanted to establish tariffs to protect Hungarian industry. He came to recognize the necessity of state interference in general:

"In the last century the notion dominated in political science that the only duty of the state is the protection of the social order, and the rest must be left to go on its own way. But social relations have become so complicated, the mechanical and natural sciences introduced so many new elements into life where the new demands cannot be met by individual action, that the principle of the previous century is no longer applicable to the conditions of today, consequently the impression has arisen that the duty of the state is not only to be the guardian of order but also to be the lever of progress."[13]

During the Hungarian revolution of 1848 a widespread movement got started aiming at the reformation of higher education, including medical training and with a special view to public health. Now the need for state interference was clear to everyone. The primary aim was to settle the question by way of legislation. On that there was agreement between the various groups of the medical profession, the relatively homogeneous circle of Balassa and the older generation of Bugát and Ferenc Flór, in spite of differences due to age and approach. But when the country was forced to use arms to defend itself the realization of the comprehensive educational proposals of Eötvös had to be postponed, together with the other plans to improve public health. The best representatives of the medical profession put on the uniform to become military surgeons, and after the lost struggle came the years of oppression. The circle of Balassa, where the real moving force and organizer was Lajos Markusovszky, the friend and supporter of Ignác Semmelweis, continued medical practice and was preparing for new reforms at their friendly gatherings.

The starting of *Orvosi Hetilap* (Medical Weekly) in 1857 created an organ indispensable to this purpose and the short-term Parliament (Diet) of 1861 offered possibilities for some political moves. The various associations and their conferences also gave opportunities for preparatory work. Despite the differences existing between the various medical groups and bypassing earlier plans drawn up by the itinerary congresses, a National Public Health Council (Országos Közegészségügyi Tanács) was set up in 1868 on the basis of a plan elaborated by the Balassa-circle and led by their representatives. Markusovszky prepared a memorandum in which he made a detailed survey of medical affairs in general and public health in particular. In health provisions he emphasized

[13] Lajos Kossuth's last public speech delivered to a group of Hungarians travelling to the World Fair in Paris. Turin (Torino), 5 July 1889. In *Kossuth Lajos iratai* (The Papers of Lajos Kossuth.) Vol. X. Budapest, 1904. pp. 304—305.

the importance of prevention, the interdependence of the preservation of the health of the people and the progress of the nation. The state must concern itself not simply with the treatment of the ill but its primary duty is to guard over the health and good state of the people.

STATE INTERFERENCE IN PRACTICE

Previous to the Compromise of 1867 the one-time centralists around Eötvös were once more ready with their plans for a modern state. In their organ, *Politikai Hetilap* (Political Weekly) they published elaborate articles containing governmental and administrative proposals.[14] The same was done in the field of medicine and health by the Balassa-group. So it was only natural that when in 1867, after two decades, Eötvös once more accepted the portfolio of Cults and Education he gave the direction of medical and university affairs to Markusovszky, which had been done in 1848 by Balassa. After the death of Eötvös (1871) his place was filled by his brother-in-law, Ágoston Trefort for sixteen years, but Markusovszky kept his post even longer. The Minister professed the triple catchword: "public health, political economy, public education", as he recognized the economic significance of those branches of the administration which were concerned with the proper physical and mental state of one of the major factors of production: manpower.

The fundamental principles of the over-all reorganization of public health were laid down in the draft proposal of the Health Council. In 1869 a decision was taken to work out a Public Health Bill, which was passed after several years' preparation in 1876. This law served the health of the country nearly for a hundred years and was very progressive in its time, even going before the attainable realities in more than one aspect. It was the comprehensive achievement of state interference; it gave guidance and regulation, it ensured the smooth operation of professional work. This classical piece of health legislation was rooted in liberalism and codified the results of intellectual cooperation between the centralists and the medical school of Pest. One of the contributors of this great accomplishment was József Fodor, a member of the younger generation, who tried to introduce into Hungary his experiences gained in England.

Another result of this reforming spirit was the regulation of examinations in medical studies in 1875. In 1848 only the principles, the loose frames of higher education were set down by Parliament codifying the freedom of learning, but the detailed plan could not be realized and it was destined to linger in the archives for nearly a hundred years. In his second tenure of office Eötvös once more elaborated a bill for the reform of higher education, but death prevented

[14] J. Antall, "Eötvös József Politikai Hetilap-ja és a kiegyezés előkészítése. 1865–66". (József Eötvös's Political Weekly and the Preparation of the Compromise, 1865–66.) *Századok*, 1965. 6.

him to introduce it. His earlier bill on elementary education had encountered so many difficulties that his successors, the pragmatic Ágoston Trefort did not want to introduce the bill on secondary and higher education, but preferred to execute its main provisions through decrees. Here he was greatly helped by Markusovszky. In addition to practical measures like the construction of new university buildings and clinics the primary aim was to create a unified system of medical training: the termination of the seperate training of surgeons and physicians, and in general to do away with all differences inside the university. Thus with the basic laws and decrees concerning public health and medical training the liberal legislation and regulation of the field was completed in the decade between 1867 and 1876. It created a firm basis for further work: to catch up in scientific research with the leading European countries, and for the birth of new schools in the specialized branches of medicine. Up to the end of the 1880's one can observe the close cooperation of the Minister, Trefort, with his councillor, the organizer of science and higher education, Lajos Markusovszky and with the talented József Fodor. Besides them an important role was played by the surviving members of the medical school of Pest; Sándor Lumniczer, Frigyes Korányi and others. The man who achieved the greatest international reputation, Ignác Semmelweis, who had shared with them the planning, did not live to see the years of realization as he died two years before the Compromise, and Balassa, too, lived only one year after the big deal.

Summing up we can conclude that the modern health policy of Hungarian liberalism was unfolding in the last years of the Age of Reforms and during the revolution of 1848 and its practical implementation was started after the Compromise of 1867. Its development showed a more or less straight line and was represented by common intellectual aspirations in the first part of the dualist period, up to the years around 1890. During this period the spirit and principles of the great generation of reformers and practical experts still prevailed. Then the greatest figures, Trefort and Markusovszky died and the remaining ones withdrew from the scene. One cannot deny the outstanding scientific achievementes of the next years, life did not stop, there was further progress, but it was a different age. The time of classical liberalism was gone, its representatives disappeared and the great internal and external tensions of the turning of the centuries portended the coming of a new age and new problems. The deeply rooting social tensions, the growth of various social and political movements demanded new conceptions, new approaches, new endeavours. One generation finished its work; they had traversed the route from classical liberalism abhorring any interference to the acceptence and propagation of a policy of state interference implementing the necessary reforms, establishing a synthesis between the earlier views on liberty and the modern principles of state regulation. By this they solved the dilemma and accepted interference when it served noble aims.

BRITISH MEDALS IN THE SEMMELWEIS MEDICAL HISTORICAL MUSEUM IN BUDAPEST

by LAJOS HUSZÁR

At present the numismatic collection in the Semmelweis Medical Historical Museum of Budapest contains about 5 000 pieces. It is entirely made up of medical medals and is based on the special collection of the late Géza Faludi (1874 – 1953), a paediatrician.[1] Naturally the primary aim of the present collection is the assembling of all medical medals which are of Hungarian origin or are related to Hungary as completely as possible, but at the same time collection is general in the sense that it includes all coins, medals, plaquettes, jetons of badges which disclose even the slightest relation to curing and health. Consequently nearly all ages and countries where medical medals were made are represented in the collection, from ancient Greek and Roman coins showing the gods of curing to the contemporary products of the modern mints.

As for the Hungarian medals, the collection is not far from being complete, but foreign countries are represented only by a small number of medals. The size of such foreign items is generally determined by the geographical proximity of the various countries and the quantity of medals issued there.

Considering the representation of Britain in the collection we may point out 66 medals which are either of British origin or have some or other relation to Britain. All together this series amounts to about 1 percent of the whole collection. By close inspection one finds some which may have some special value owing to their date or the purpose of the issuing, of their relative rarity. These few would have an esteemed place in any collection among medical medals.

Fig. 1

Fig. 2

[1] There is a printed catalogue on the collection of Géza Faludi: "Medicina in nummis. Sammlung dr. med. Géza Faludi, Budapest, 1929", but there were many additions to it in later years.

Fig. 3

Fig. 4a

Fig. 4b

Fig. 5

The 66 medals can be divided into three larger groups: medals representing or commemorating persons, medals on various subjects, and tokens, badges, jetons. The most homogeneous one is, of course, the first. The earliest piece is an oval silver medal which shows the 62 year old János Bánffihunyadi (1576 – 1646), an alchimist and physician of Hungarian origin, who spent a considerable part of his life in England. The artist is unknown but the style of the portrait recalls an engraving (B. 52, Fig. 1)[2]. The collection has medals on three 18th century British doctors. John Locke (1632 – 1704), the physician and philosopher, appears on two medals. One is the work of J. Roettiers from 1739 (B. 703, Fig. 2) with the legend "Mens habitat molem" on its reverse side. The other is a French suite-medal from 1819 in the Durand-series representing outstanding personalities, and was made by a French artist, F. A. Caunois (B. 706). Both are of bronze. The medal commemorating Robert Baker, a London physician, is from 1744, the work of A. Dassier (B. 58, Fig. 3). The third is a tin medal of John Taylor (1703 – 1772), a miraculous healer born in England, who died in Prague. It was engraved by A. Vestner of Nuremberg, probably in 1747 (B. 1203). The memory of Edward Jenner (1749 – 1823), the discovever of smallpox vaccination, is served by three medals. Two silver medals are by F. Loos (B. 566 – 567, Fig. 4a – b), with allegorical reverses, from the first quarter of the 19th century, that is they are contemporaneous, while the third was cast in bronze by the Hungarian László Deák in 1968, bearing the portrait of Jenner. The fame of the founder of the theory of evolution, Charles Darwin (1809 – 1882), is preserv-

[2] The most important works used in identifying the medals enumerated are: B = *Eduard Holzmair*, Katalog der Sammlung Dr. Josef Brettauer. Medicina in nummis. Wien, 1937. F = the catalogue of the Faludi collection, quoted above. St = *Horatio Robinson Storer*, Medicina in nummis. A Descriptive List of the Coins—Medals—Jetons relating to Medicine. Boston, 1931.

ed by quite a rich collection, most of which were made for the hundredth anniversary of his birth in 1909. A oneside bronze portrait-plaquette was issued by the Stuttgart firm of Mayer & Wilhelm (St. 789). The German Karl Goetz made a smaller silver and a larger bronze medal: both reverses show an ape kneeling before a skull (St. 785a), while another plaquette by the Hungarian Szilárd Sződy shows his portrait (St. 789b). The original bronze moulding of the latter is also part of the collection. There is another Darwin-medal worth mentioning which might be considered a rarity. It is a one-side alloy of bronze with a half-length portrait of the scientist (with a diameter of 57 mm) without any legend or signature. It is known to be the work of József Reisner, a graver in the Hungarian Mint at the end of the 19th century.[3] (Fig. 5.) A probable explanation of the origin of the medal is that between 1887 and 1892 Reisner was learning in London in the workshop of Allan Wyon. There are two further medals of Darwin kept in the collec tion. One is a one-side half-length moulded bronze portrait without any legend and signature, the other is the bronze medal of the "Oesterreichische Tiermarkt" in Vienna with the portrait of Darwin on the obverse side (St. 790).

There are some reward-medals relating to medicine which are closely related to the personal medals. They can be regarded as personal medals both for bearing the engraved names of the honoured ones and as they are very often named after distinguished physicians, often also bearing their portraits. The earliest such reward-medal is of Russian origin and might be of interest for those interested in John Howard (1726—1790). The bronze medal signed by the Russian artist W. Alexejeff (B. 51, Fig. 6a—b) shows the head of the English philanthropist, the fighter against all epidemics, who died at Cherson in the Ukraine. An undated bronze medal made by the

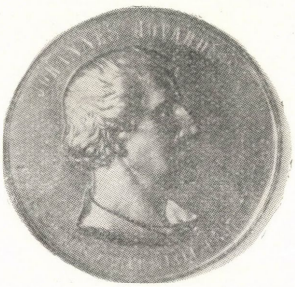


Fig. 6a

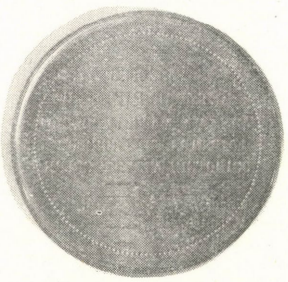


Fig. 6b

Fig. 7

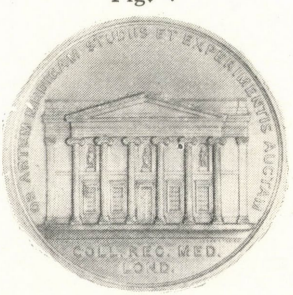


Fig. 8

[3] The medal is described in *L. Huszár* and *B. Procopius*, Die Medaillen- und Plakettenkunst in Ungarn Budapest, 1932. No. 3903.

Fig. 9

Fig. 10

Fig. 11

Fig. 12a

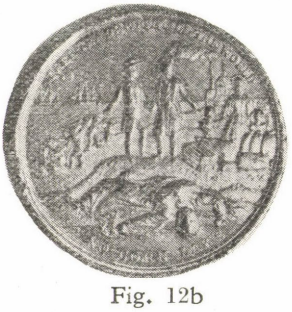


Fig. 12b

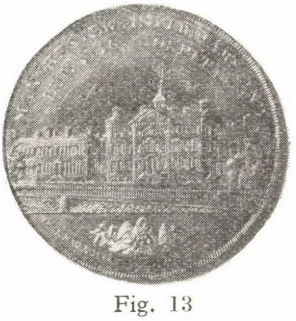


Fig. 13

Fig. 14

Fig. 15

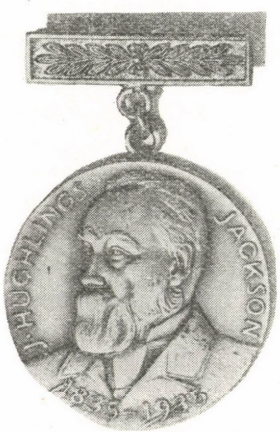


Fig. 16a

Fig. 16b

Fig. 17

Fig. 18

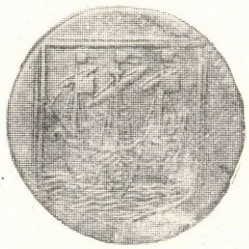


Fig. 19a

Fig. 19b

Fig. 20a

Fig. 20b

French A. C. Paquet in 1858 bears the half-lenght portrait of James Buchanan, President of the United States. The legend on the reverse shows that it was offered for Frederick Rose, an English ship surgeon (1833 – 1873), for his devoted work on the American S. S. Susquehana at the outbreak of the yellow fever (B. 990, Fig. 7). The I. and II. class awards of the French Departement du Nord distributed in 1844 in connection with the smallpox vaccinations both show E. Jenner on the obverse side. They are of bronze and signed Hamel & Lecomte. Another reward-medal is a one-side tin one showing a classical portico. (Fig. 8) It was copied from the reverse of the reward-medal of 1886 of the Collegium Regium Medicale in London. The obverse of the original showed the portrait of Walter Moxon (1836 – 1886), a London physician. The medal—made by Allan Wyon—was awarded in every third year in acknowledgement of clinical researches (St. 2564). Two 20th century reward-medals are interesting for their Hungarian relations. One is an oval bronze exemplar from 1907 showing Hygieia. It was awarded by the Royal Sanitary Institute to the Hungarian Alajos Michl (his name being carved on) on the occasion of the exhibition held at the time of the international congress on school hygiene. (Fig. 9) The second bears the name of Florance Nightingale (1820 – 1910) on an oval silver medal (St. 2613) and was granted by the International Council of Red Cross Societies to a Hungarian, whose name is carved on: Alice de Ibrányi. (Fig. 10)

The second large group includes medals relating to various medical events, including those connected with historical personalities and events. The earliest is a recast bronze copy of Queen ("Bloody") Mary's (1553 – 1558) medal made by the Italian Jacopo da Trezzo. Its medical aspect lies in the legend on the reverse: "Cecis visus timidis quies" (B. 4787). Another Italian, Ottone Hamerani, made a bronze medal in 1720 celebrating the birth of ("Bonnie") Prince Charles Stuart. The obverse shows the double portrait of James III and his wife Cle- mentine (B. 4907). A tin

medal of George I from 1721 was made to commemorate the introduction of smallpox vaccination (St. 4634). The obverse shows the initials I.D., the reverse the name Thomason. (Fig. 11) Another tin medal celebrates the recovery of Queen Elisabeth in 1789, bearing the half-length portrait of court physician Willis and the initials C.I. on the obverse (B. 4590). A similar reference to the health of the sovereign is a sterling coin of George III (1804) (B. 4592), and a tin medal of Ottley from 1872 to mark the recovery of Edward, Prince of Wales. A tin medal signed J. Davis is from the first part of the 19th century and is related to the struggles against the Corn Laws and for free trade. (Fig. 12a – b) The inscription on the obverse is "Hunger" which includes it among the medals of distress (B. 2152). An unsigned tin medal is the last in this line. It marks the death of Frederick Duke of York, with the symbol of an urn on the reverse.

The collection has two medals connected with medical institutions. The gilt bronze medal of the Infirmary and Lunatic Hospital in Manchester is from 1796. (Fig 13) The pictures, showing buildings, are the work of A. Seward (B. 3009). The bronze medal of the London Medical Society depicts Sophie Charlotte in half-length together with Hygieia. The date is 1773, the year of its foundation, but was ma de in the 19th century by J. Kirk (St. 6545, Fig. 14.)

The collection is richer in medals commemorating medical congresses. The VIIth and XVIIIth international congresses held in London have medals represented in the collection. The first was made by L. C. Wyon in 1881 with Queen Victoria on the obverse (B. 2393), the second by Cecil Brown in 1913 showing J. Lister on the obverse (St. 2220). Both are of bronze. The silver medal of the Xth veterinary congress planned for 1914 in London has two Hungarian relations. (Fig. 15) The circular legend on the front refers to the statues of the VIIIth congress held in Budapest and shows thearms of Hungary and Budapest with he crown. The artist was Richard Adolf Zutt, who was of Swiss origin but at the beginning of the

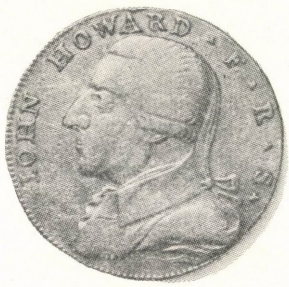


Fig. 21a

Fig. 21b

Fig. 22a

Fig. 22b

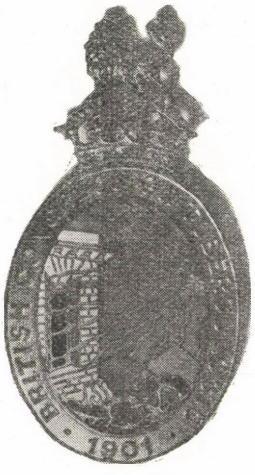


Fig. 23

20th century lived and worked in Budapest for a long time. Finally we may mention the medal of the IInd International Neurological Congress minted from some white metal in 1935, with the half-length portrait of J. Hughlings Jackson. (Fig. 16a—b) According to the signature on the tag it was the product of the firm J. R. Gaunt.

The collection have two varieties of the medal minted for the 1893 exhibition of the pharmacisst of London. Both are the work of W. Mayer made of gilt bronze with the portrait of Queen Victoria on the observe. The circular legend on the reverse differs however: "Int. Exhibition for Hygiene Pharmaceutics and Foods" (B. 4330, Fig. 17) and "Int. Exhibition for Industry Pharmaceutics and Foods" respectively. A tin medal with Thomason as signature is to some extent also relating to hygiene: it is a belated celebration of Henry III bringing water in London through conduits in 1257 (St. 8293). Similarly the medal of the Total Abstinency Society in Cork, the work of Jones. (Fig. 18)

The third group of medical medals includes tokens, and jetons which have a bearing on medicine due to their legends, pictures or functions. Here the oldest is a poor man's token from 1669. (Fig. 19a – b) The obverse bears only the legend: "A Weymouth Fasthy for the Poor", the reverse shows a ship in a crest. There are several special English tokens from the turn of the 18th and 19th centuries. They were penny or halfpenny coppers used in everyday circulation and were issued by various institutions. Many of them had some medical connection. The following ones are in the collection (in alphabetic order together with the date of issuing): G. F. Handel's charity halfpenny, 1791; a halfpenny propagating Samuel Hannay's preventive medicine, without date (B. 5434); a penny and a halfpenny advertising the pills of Thomas Holloway, 1858 and 1851 respectively (B. 5436 and 5437, Fig. 20a – b); halfpennies with the head of John Howard the philanthropist from 1792 (B. 511, Fig. 21a – b), 1794 (B. 514), 1795 (B. 516), one without date (B. 518); and halfpennies of Bath from 1794 (B. 4015, Fig. 22a – b) and from 1795 (B. 4017). There are other kinds of jetons like Elisabeth Bayley Seton's with the legend "God is Charity" (1821), a jeton recommending the "Anodyne Necklace" of Basil Burchell of London (F. 180), a healing propaganda-token of Eady (London) with the picture of the phoenix from about 1820 (B. 5509), and finally a pharmacist's weight from 1847 with "Two Drams" on its reverse.

The collection includes some badges as well. One was made in 1901 on the occasion of the British Congress on Tuberculosis (Fig. 23), the second originates in 1907 at the II. International Congress of School Higiene, another marks the 1910 appearance of Halley's comet. There is a badge of the Children Fund

without a date, prepared by the firm Du Barri & Hill, and his enumeration is concluded with an enamelled metal copy of the cross of the British Red Cross Society with the name M. B. Clarke carved on it in 1930.

By this review we have tried to show how and to what extent Britain is represented in the collection of medical medals at the Semmelweis Medical Historical Museum. Out of the 66 pieces eight have some relation to Hungary, too: the medal of János Bánffihunyadi, two Darwin-medals by Szilárd Sződy and one by József Reisner, László Deák's Jenner-medal, two medals awarded to Hungarians, and the medal prepared for the veterinary congress in London by Zutt. These aspects have been consciously emphasized, not merely to lend more colour and interest to the selected material, but because they may serve as historical documents and illustrations of some mutual relations between the two countries.

HUNGARIANS ON GREAT BRITAIN
1620—1848

OBSERVATIONS ON ENGLISH EDUCATION AND PUBLIC HEALTH IN HUNGARIAN TRAVELOGUES

by GÉZA BUZINKAY

The Hungarian tribes conquered their present country after long migrations more than thousand years ago, and they won first reputation in European history on account of their raids. Wandering and globetrotting seems to have developed to our "national characteristics" ever since. Our fellow-countrymen used to travel, study abroad and make comparisons, they judged the Hungarian by the standard of the great world. After the Hungarian revolution and War of Independence against the Habsburgs in 1848/49 and again from the end of the last century onwards, they settled down in large numbers in foreign countries.

England, Great Britain—and from the beginning of the 19th century onwards even North-America—played an important role in the interest, orientation and travelling routes of Hungarian travellers. Parallel to medieval dynastic relations, cultural relations also developed between the English and the Hungarian. It is a remarkable, almost symbolic phenomenon that the first student known by name at Oxford University was the Hungarian *Nicolaus de Hungaria.*[1] From that time on up to the present day our mutual relations have been unbroken[2] dispite numerous hindering factors. Until the middle of this century, German cultural influence prevailed in Hungary, accompanied by political influence or even subordination. Until the end of the last century, the bourgeois citizens of Hungary consisted almost exclusively of German nationalities.[3] Last but not least, the great distance between the two countries meant also one of the greatest obstacles for quite a long time. Until the 1820-ies—when the majority of Hungarian travellers left for England already with a considerable knowledge of English—difficult orientation was also due to the fact that Hungarian scholars and students of a prevailingly classical education could hardly make themselves understood on English territory.[4]

[1] *Gál, I.:* Magyarország, Anglia és Amerika (Hungary, England and America) Budapest 1945. p. 9–11.

[2] The best summary of Anglo-saxon—Hungarian relations with a rich bibliography: c.f. *Gál* op. cit.

[3] For further information see: *Pukánszky, B.:* Német polgárság magyar földön (German inhabitants on Hungarian territory), Budapest 1940.

[4] *Márton Szepsi Csombor* complained in 1620: "...*Where* (i.e. England) *I was surprised above all at the lack of Latin knowledge of the people, because walking along three streets among merchants, furriers and tailors, I did not meet anyone who could have talked to me in Latin...*"c.f.: *Szepsi Csombor, M.:* Europica

For centuries Great Britain has remained for us a place of ever recurring wonders, and especially from the Hungarian Age of Reform onwards (1825–1848), it was the school of the greatest personalities of Hungarian history and cultural history. It was in England where they could set up the highest possible standards in comparing Hungarian circumstances with a continuously progressing great empire and their experiences and studies there greatly contributed to the development of their theories and plans for the reform of Hungarian society, administration and education.[5] *Márton Szepsi Csombor*, a Presbyterian preacher and teacher, one of the most significant among our first travellers to England, and the very first who also published his experiences in 1620–in Hungarian language—writes in his book enthusiastically: *"Pure and Christian England should always preserve its faith, name, well-deserved reputation and respect".*[6] He goes on saying: *"English people strongly protect their genealogy. Be he ever so mean, if you talk to him, he traces his genealogy back to noble or royal origin."* In London he exclaims: *"I have seen several big cities in the countries I went, but I have never seen a town like this one..."*.[7] This enthusiasm did not fade until the 19th century: *"The English are the most humane among all nations, and this can be regarded as a main feature in the analysis of their character"*—*János Zigán* observed in 1808.[8] In 1837 the the young *Bertalan Szemere*—later, in 1849 Hungarian Prime Minister—said: *"No matter how much you have seen, in London you'll be surprised, because other towns resemble each other, but London resembles only itself".*[9]

Varietas. Kolozsvár, 1943. p. 104.; In the middle of the 17th century *Miklós Bethlen* wrote the same: *"In England ... I was compelled to speak in their language, even if badly, even if broken, because priests and even professors consider it a mere nuisance if they have to talk in Latin."* c.f. Bethlen Miklós önéletírása (Autobiography of Miklós Bethlen), Budapest 1955. Vol. I. p. 188.

[5] *Horváth, J.:* Az angol–magyar érintkezések utolsó évszázada (The last century of English—Hungarian relations) in: Történeti Szemle (Historical Review) 1929. p. 144. He observes: *"...Hungarian public opinion was greatly influenced by English constitutional principles and political views, because in Hungary the English precedents never before enjoyed such a high reputation and were never before to such an extent in the focus of interest as during the Age of Reforms. Under liberal and centralist management the Pesti Hírlap–just as the conservative press–was full of English examples; our best publicists wrote essays on English speakers and statesmen."*

[6] *Szepsi Csombor*, op. cit. p. 99.; *Békés, Á.:* Szepsi Csombor Márton útja Angliában (Márton Szepsi Csombor's travellings in England) in: Angol Filológiai Tanulmányok II. Debrecen 1965. p. 35.

[7] *Szepsi Csombor*, op. cit. p. 101, 105.

[8] *Zigán, J.:* Nagy Britanniának egyházi, polgári és tudománybéli állapatja a' XVIII-dik század' vége felé. Nemzeteket és országokat ismertető gyűjtemény. (Ecclesiastical, civil and scientific state of Great Britain around the end of the 18th century. Collected review on nations and countries). Vol. I. Pest 1808. p. 70.

[9] *Szemere, B.:* Utazás külföldön (Travelling abroad). Second enlarged edition. Vol. II. Pest 1845. p. 10.

Besides amazements and "wonders", Great Britain gave a decisive stimulus to *István Széchenyi* in creating the programme of his reforms: his first travel to England in 1815 actually marks the beginning of the Hungarian Age of Reforms, and with it the birth of modern Hungary.[10] Other statesmen, politicians, reformers followed his example and a long process of travelling began to Great Britain. In the 1820-ies and 1830-ies *Miklós Wesselényi, Sándor Bölöni Farkas, József Eötvös, Zsigmond Kemény, Ferenc Pulszky, Bertalan Szemere, Lőrinc Tóth,* stayed there—just to mention the most outstanding ones.[11]

The new experiences, especially the significance of political and social ideas which have always been in the centre of interest in Hungary, contributed to the fact that in the memoirs and letters on Great Britain, the interest was focused mainly on English society and other questions were neglected even with authors who—in other countries—were equally interested in everything. Consequently, the Hungarian public, which could get acquainted with the experiences and thoughts of the great travellers through their memoirs were scarcely informed on the development of British education and public health.

HUNGARIAN STUDENTS AND PHYSICIANS IN GREAT BRITAIN

The first Hungarians to leave for England were mainly students. The above mentioned *Nicolaus de Hungaria*—whose education was financed between 1193—95 by *Richard the Lionheart* himself, who granted him an allowance of half a mark[12]—was followed by Hungarian Protestant students. After 1622 when Tilly's armys attacked Heidelberg, young students streamed to England.[13] In Oxford and Cambridge 3 Hungarian Presbyterian students had board and lodgings.[14] In the course of the 18th century the already existing relations became closer despite the obstacles set by the political situation prevailing in the Habsburg lands. *Ferenc Pápai Páriz* doctor of medicine and *Sándor Teleki* applied for English aid in the interest of Bethlen College of Nagyenyed*, the College of the Protestants. The son of *Imre Pápai Páriz* happened to study in England and through him an application was presented to Queen Anne, the Archbishop of Canterbury and other nobilities, the result of which was that in that very year an appeal was made from each pulpit to start a collection.

[10] *Horváth,* op. cit. p. 144.
[11] *Gál* op. cit. pp. 73–96.; *Gál, I.:* Bölöni Farkas Sándor az angol radikálisok között (Sándor Bölöni Farkas among the English Radicals) in: Korunk (Our Age) 1967. 12. pp. 1729–1731.
[12] *Magyary-Kossa, Gy.:* Magyar orvosi emlékek (Medical Memories of Hungary) Vol. I. Budapest 1929. p. 10.
[13] *Magyary-Kossa,* op. cit. 55.
[14] *P. Szathmáry, K.:* A Gyulafehérvár–Nagyenyedi Bethlen-főtanoda története (History of Bethlen College at Gyulafehérvár–Nagyenyed) Nagyenyed 1898. p. 105.
* Now Aiud in Rumania

More than £ 11 000 were offered. It was deposited in the Bank of England and for two centuries it was the "safest capital" of the college. Until the last third of the 18th century, beside Holland, Presbyterian students studied mainly at the universities of England and Scotland.[15] From the 16th century onwards not only students went to London and England. The first famous Hungarian traveller was *András Dudich* (1533 – 1589), the would-be Bishop of Pécs, who "...*accompanied the cardinal* (i.e. Pol Reginaldo who had been banished from Italy) *leaving for England, to London on a long way round... he greeted Princess Elisabeth, the future Queen in polished Latin language...*".[16] His travel in 1554/55 was followed that of *Máté Skaricza,* Presbyterian priest and author of chants, in 1571, and *István Kakas* diplomat from Transylvania, the envoy of Zsigmond Báthory in 1593. By the time *Márton Szepsi Csombor* arrived at London (he must have stayed there for 10 – 14 days in May 1618) there had been already several Hungarian refugees settled down having escaped from the Turks who had occupied a large part of Hungary.[17] *Szepsi Csombor* stayed in England for a relatively short time, alone, and without knowing the language. In his "Europica Varietas" published in 1620[18] he writes less on England and its capital than on other stations of his travellings. His descriptions do not rely strictly on his own experiences, he made use of his literary and cultural historical knowledge.[19] It is mixed with some rumours, e.g. when—based on *Pliny*—he writes: "...*It is the gagates stone from which those who know the art can make an eternally burning candle to be put out only by oil. It is a different thing that if one were to give the powder of this stone in wine to a young girl or young man, in that way one could get infallible evidence of their chastity, because if they are chaste, they will digest it, and if not, they will bring it up at once*".[20] His descriptions, however, are mostly reliable, though—as we have mentioned it—unfortunately rather laconic. "*England*—he writes—*has two academics. One in Cantabrigia, where that famous Vilhelmus Witakerus and Perkinsus were teach-*

[15] *P. Szathmáry,* op. cit. pp. 158 – 159.; *Magyary-Kossa,* op. cit. p. 5.

[16] *Weszprémi, I.:* Succincta medicorum Hungariae et Transilvaniae Biographia – Magyarország és Erdély orvosainak rövid életrajza. Vol. I. Budapest 1960. pp. 67—69.

[17] Békés op. cit. p. 5, 12.

[18] *EVROPICA VARIETAS. avagy SZEPSI CZOMBOR MARTONNAK Lengyel, Mazur, Pruz, Dania, Frisia, Hollandia, Zelandia, Anglia, Gallia, Német és Cheh Országon; viszontag: az Prussiai, Pomeraniai, Sueciai, Norvégiai, Frisiai, Zelandiai, Britanniai Tengeren valo budosasában látot, hallot külömb külömb fele dolgoknak röuid leirása. Mely minden Olvasonak nem czak gyönyörüsegére, sok fele hasznara-is szolgalhat. Cassan, Festus Ianos altal, 1620* (Evropica varietas, or a short description of the various things seen and heard by Marton Szepsi Czombor during his peregrination in Poland, Mazuria, Pruzia, Dania, Frisia, Holland, Zelandia, England, Gallia, Germany and Bohemia, and on the Prussian, Pomeranian, Suezian, Norwegian, Frisian, Zelandian and Britannian seas, which might give the Reader not only pleasure but also various benefits Cassa, published by Ianos Festus, 1620.).

[19] *Békés,* op. cit. p. 6, 35.

[20] *Szepsi Csombor,* op. cit. (1943) p. 103.; *Békés,* op. cit. p. 7.

ing. The other is Oxonium, reputed for János Casus".[21] He made three remarks which can be related distantly to public health. One of them is a delicate remark on ladies' fashion: "*All who have passed the age of 14 and have not yet passed 40 agree that if they consider they can show off with their bosoms being white and full, they reveal them proudly, hanging a precious cross in between or an Agnus Dei, as they call it*".[22]

Several data have come down to us according to which in the 16th – 17th centuries Hungarian alchemists and later, in the 17th—18th centuries physicians went to England. Mention should be made of *János Bánfihunyadi* (1576 – 1650?) the famous alchemist who—according to *Weszprémi*'s description —"*went to England as a student and he did alchemy for a long time especially in London, ... he became a famous alchemist and obtained the worthy title of "adeptus"* in Gresham College.[23] He was followed by *Albert Laszky*, another famous alchemist.[24] In the light of the records, *István Tolnai* (1630 – 1690) was the first physician to have been to England. *Gáspár Enyedi* stayed there in 1662—64 in the retinue of *Miklós Bethlen* who later became chancellor of Transylvania. In the second half of the 17th century two more physicians can be mentioned: *Ferenc Hunyadi* and *György Szilágyi (Silvanus)* who "*...taught at public schools*"[25] in Middlesex, near London. *Dániel Vilmos Moller* (1642 – 1712) physician, jurist and theologian, later university professor at Altdorf University stayed in England before 1670. Mention should be made of *Sámuel Köleséri* (1663 – 1732) a central figure of the scientific and public life of contemporary Transylvania, who in 1729 was appointed member of the Royal Society of London, too. In 1693/94 *István Huszti Szabó* (1671 – 1704) "*...paid a visit to the Laboratory of the Royal Society of Pharmacists in London, directed by Staphorst, the famous chemist. In Oxford he took part in several university celebrations and meetings*".[26] In the second half of the 1710-es *András Ajtai* (1672 – 1733) stayed in England and then it was *János György Vette* who "*...sailed to those happy isles, i.e. England*".[27] *István Weszprémi (Csanády)* (1723 – 1799) one of the most outstanding physician-polyhistors in the 18th century, arrived at England around 1754 – 55 but—as we have seen in the

[21] *Szepsi Csombor*, op. cit. 104.

[22] *Szepsi Csombor*, op. cit. pp. 103 – 104.; He obsreves that England is "*inhabited by a beautiful womenfolk of medium height and the women are especially beautiful" clean, white and tall...*" *Szepsi Csombor*, op. cit. p. 103; On England in general he remarks, that "*there are many hot baths in it*". Ibid. In London he observes: "*Not only in this town, but all over the country the custom is that people first drink in the morning and eat only afterwards and if they invite their friends for breakfast, they invite them for a glass of beer instead of a piece of roast meat... They give the following reason for their habit: if you want to cook, you first give the pot a rinse and put the thing to be cooked in it only afterwards.*" c.f. *Szepsi Csombor*, op. cit. 110.

[23] *Weszprémi*, op. cit. pp. 25 – 27.

[24] For further information see in this volume: *Schultheisz, E.* and *Tardy, L.:* The Contacts of the two Dees and Sir Philip Sidney with the Hungarian Physicians.

[25] *Weszprémi*, op. cit. p. 333.

[26] *Weszprémi*, op. cit. Vol. II. p. 205.

[27] *Weszprémi*, op. cit. Vol. II. p. 423.

case of other travellers—he did not give a detailed report on his travels and experiences, either. In his *Succincta* he remarks only that from Holland "*...he sailed to England twice, went to Oxford and Cambridge, burrowed into the public libraries of the universities and the private libraries of the colleges: He stayed in London, the royal residence, for one and a half years, he went in for each branch of medical science, anatomy, surgery, chemistry, botanics, etc. He was concerned about obstetrics in theory and practice, kept on visiting the public hospitals; St. Thomas' Hospital, St. George's Hospital, the hospital named after the Prince of Cumberland; the London Hospital, and the house for small-pox vaccination*".[28] The dedication of his work Tentamen de inoculanda peste[29] and certain headwords of the Succincta reveal some of his experiences in England. In connection with *András Ajtai* he wrote e.g.: "*As he knew well what medicine owes to the English, he decided to go to their holy island, blessed by nature and science...*".[30]

ENGLISH EDUCATION WITH HUNGARIAN EYES

The most significant Hungarian non-medical memoirists have given us several descriptions referring to English education and public health—both in the narrow and wider sense of the word. Since each traveller aimed to render an overall picture of the English nation, allusions to the question of education as a whole were not left out. *János Zigán* adopted an English work in Hungarian —as the title-page of his book shows—nevertheless its great spirit and passionate tone make it more than a mere adoptation.[31] He said the following: "*The taste of the English in gardening and education seems very similar. They like nature and it is nature's way that they assist here and there, and they are unwilling to allow it to be spoiled by man's craft. And the same is the reason that Englishmen come closest to man's dignity and mission. Their system of education is free and easy, it is without any compulsion and it encourages free and matter-of-fact thinking which is so familiar with the English*".[32]

[28] *Weszprémi,* op. cit. Vol. I. pp. 407—409.

[29] *Weszprémi, Stephanus:* Tentamen de inoculanda peste. Londini, 1750. The dedication of the volume reads as follows: "*Grauissimis, Eruditissimisque VIRIS D. Rev. IOAN. IAC. MAIENDIE, S. S. Theol. Doct. et Canonico Salisburiensi. D. Rev. ANDREAE PLANTA, M. A. et Prof. Mathem. nec non Eccl. Teutonicae V. D. M. ITEM Dn. IOANNI ANDREE, M. D. Dn. IACOBO HIBBINSIO, M. D. Dn. IOANNI SILVESTRO, M. D. Triumuiris in arte medica experientissimis, Infirmarii publici Londinensis Practicis Medicis. Dn. MICHAELI MORRISIO, M. D. Chymiae Professori exercitatissimo. Singulis vero Fautoribus singulari obseruantia colendis in significationem grati animi offert Auctor.*"

[30] *Weszprémi,* Succincta, op. cit. Vol. II. p. 27., As to the English relations of Weszprémi see the study of *R. Harkó, V.* and *Vida, T.* in this volume. The manuscript of *V. R. Harkó* on the history of English–Hungarian Medical relationships until 1800 is going be published in our *Communicationes* in 1973. (The editor).

[31] The title-page of the book reads as follows: "According to the work of D. Wendeborn Gebhard Friderik Ágoston, preacher from London, summarized shortly by János Zigán."

[32] *Zigán,* op. cit. 70.

Having visited Oxford and Cambridge after 30 years, in 1837, *Bertalan Szemere* pointed out almost the same phenomenon. At the same time he tried to elucidate as clearly as possible the advantages of the English educational system considered as curious on the Continent. *"And how is it possible*—he asked—*that despite such deficiencies of the colleges, England can still provide us with so many excellent personalities? Isn't it due to the magnificence and authority of the public life in the universities compelling everyone to activity and meditating? It is true that the source of greatness of the English nation lies in work and activity created by life and taking its roots in life. Isn't it due to the fact that completing their studies in a short time, young people are confronted with the age of freedom when they are to act and think on their own? It is true that as long as you study you are a slave, and you regain your mental independence only when you have left school, whether at the age of 12 or 30... Isn't it due to the fact that the young man is equally and continuously divided between school and life—and thus between theory and practice, between contemplation and reality and while classics inspire and cultivate his soul, life provides him with the power of judgement? It is true that the knowledge an Englishman has, is not wide but it is thorough, his power of memory cannot be admired, but he can perceive each object individually and skillfully, which has two consequences: he uses his own reason and his intellectual capacity is unfolded, stimulated and awakened, it is like the sun illuminating everything, whereas in our home, filled with knowledge, it is like a fully written page on which there is no room left for anything else".*[33]

Bertalan Szemere examined carefully penology and prison matters, one of the most significant questions for the reformers of the age. He realized that the English prison system based on single cells is an example to be followed in Hungary.[34]

OBSERVATIONS REFERRING TO PUBLIC HEALTH

János Zigán observed—as *Márton Szepsi Csombor* two hundred years before—that *"it can be said of the present English in general that they surpass any other nations in cleanness and especially in taking care of the cleanness of their underwear".*[35]

He gives us the first detailed description on London hospitals and charitable institutions. It is worth presenting the guide-like description in its full length. *"North-eastwards from here* [i.e. the British Museum] *is the Foundling Hospital, which looks rather a palace than a house of the infant poor. The boys brought up there will be given to serve on ships while girls will be servant maids. Towards the west is a building called Charterhouse, purchased by Thomas*

[33] *Szemere,* op. cit. pp. 175–176.
[34] *Szemere,* op. cit. Vol. II. pp. 57–86; The great novel of József Eötvös entitled "A falu jegyzője" (The village notary) was written in the same spirit some years later (1845).
[35] *Zigán,* op. cit. p. 58.

S u t t o n for the purpose of feeding there 80 poor widowers who passed 50, and endowed as a school for 80 poor boys who are provided with board and lodging, clothing and everything free of charge. Besides 29 boys who study at the college are granted 20 pound sterlings for 8 years. Those boys who will be given to learn crafts from this school receive 40 pounds. The in ome of this house is 600 pound sterlings. The director of the College is always a learned person who won fame for his writings...

On one side of it [i.e. Smithfield Market] *is St. B a r t h o l o m e w ' s Hospital, a foundation in a very nice building where the sick and wounded are admitted and cured under the best care. Here follows the well-known Bethlehem of Bedlam where watching the poor lunatics, human pride is pulled down and the presumptuous mortal being is remembered that he might have the same fate. It cannot be explained how it happens that the English who are so apt for sane thinking are so very much exposed to insanity. The nation is compelled to establish ordinary and even special buildings for lunatics. This Bethlehem Hospital is 540 feet long and 40 feet wide. There are 200 rooms for the unfortunate lunatics. Those who are poor and there is hope for a recovery, are received free of charge. The more opulent have to pay something each week.*

In front of it is St. Luke's Hospital of the same function where lunatics are received whose recovery is hopeless.

Southwards is the London Hospital which is based on charity. There are 160 beds in it for wrecked people suffering in epilepsy and other unfortunate diseases. They are admitted here day and night from early in the morning to late in the evening, without any references. And because generally there are more patients than can be accepted, many of them are cured outside the hospital at the costs of the hospital.

In the Christ Hospital orphans are kept and tought craftmanship".[36]

These lines reveal the acknowledging surprise on the philantropic thinking of state and individual. The same was expressed by *Bertalan Szemere* in his witty remark though he already realized the appearing contradictions of laissez faire capitalism. *"...You cannot see the poor of Paris, because she is a mother who hides her dirty children before the salon quests; London on the other hand lets them walk around everywhere like another mother who—knowing that children are not naughty everywhere—is not ashamed of them"*—he wrote in 1837.[37]

Earlier Hungarian travellers reported only on the increasing consumption of alcohol. *Szemere* already took part on the meeting of a temperance society. *"I have been lately on the annual session of the t e m p e r a n c e s o c i e t y, from 10 a.m. to 6 p.m. in the Exeter Hall, where more then one thousand men and women were present, especially a lot of quakers. On the breast of the participants memorial coins with blue ribbons were hanging with different representation and legends. The meeting was opened with a prayer and several speeches were held against alcoholic drinks. Then a physician dripped three quarter of a pint of ale-*

[36] *Zigán*, op. cit. pp. 64–69.
[37] *Szemere*, op. cit. p. 94.

beer and lit it in front of the public and showed the remainder, a resionous material around. Several women next to me said in disgust: Indeed, I won't ever drink at all. It is interesting for you to know that the temperance society in North-America sent four million copies of an excellent paper written on this subject to England to be distributed free of charge. Finally a saving-box and pure water for drinking were taken round. Leaving the room, in the entrance hall large sheets of paper were placed on the tables with the inscription: "Temperance Society". I herewith undertake not to drink ale and porter beer, cyder (apple-wine) wine or any other spirits unless as medicine. Who signed his name and address and rank became morally the member of the Society".[38] According to him in Great Britain and North-America there were already five thousand similar societies founded.

The travellers—for reasons easily to be understood often referred to the brothels in London and thus we can get an idea of this acute question of public health, too. This off-spring of the capitalist metropolis greatly surprised Hungarian travellers of the 17th—18th centuries. *Miklós Bethlen* wrote that in London: "...*though the people are all Presbyterian, there are still many secret brothels...*",[39]. In the beginning of the 19th century *János Zigán* said the same: "...the number of women living by lechery exceeds 40 000", many of them are only 13 or hardly older.[40]

*

After reading the relevant literature and examining the collected data that have come down to us from the two and a half centuries preceeding the middle of the 19th century, we must admit that only a rough picture can be formed on what were the main attractions and specialities in the eyes of the Hungarian travellers referring to education and public health in England and especially London. English influence did not manifest in the immediate descriptions but it was felt through a series of linked transmissions in the activity, behaviour and life-work of the personalities concerned. The few details we have mentioned above suggest that the greatest experience of the Hungarian travellers was the manifold aspects of bourgeois Great Britain, the increasing empire, the unsurpassed interpenetration of private and public interest, club life, freedom and lack of sophistication, the grasping of practical questions and agenda instead of abstract ideas, the training for life, social welfare, physical and intellectual purity. The words of *Bertalan Szemere* are the best expression of this idea: "...*Considering the origin of clubs and several other institutions we find that public and personal interest are not at all in contrast as some*

[38] *Szemere*, op. cit. p. 30.

[39] *Bethlen*, op. cit. p. 221.; He remarks here: "*We went to a house under the sign of the Saracen King. We happened to arrive late at night, well, immediately* [we were given] *a lot of things, Spanish wine, Canary sect* [dessert wine made of the raisins of the grapes grown on the Canaries], *two whores for each of us, one of them being only 18 years of age...*"

[40] *Zigán*, op. cit. p. 60.

methodizing philosophers state it, at least in England these two fit like counter-moving meshing gears: they lift the burdon, the fate ot the country—together... While one provides his people with coal, gas, fish transported from a thousand miles, or water caught from hundred wells, with fruit grown in tropical plantations; wine, wood, plants and precious spice from all over the world, the other insures your fortune against damage and the life of your family, builds workhouse for the poor, hospital for the sick, (the endowment of which might amount to 2 million silver florins). This public spirit to be traced in the smallest and greatest things alike, from home life to state life, has made the British nation an empire: unique in the world in past and present, this is responsible for the meanest thirst for lucre and to be combined with the most divine generosity, this made the citizens one by one and the nation as a whole opulent, only this can be the reason why Great Britain was able not only to wish great things but also to be able to carry them out and not only to be able to carry them out but actually fulfill them".[41]

[41] *Szemere,* op. cit. pp. 51–52.

MEDICAL AND SANITARY CONDITIONS IN HUNGARY AS SEEN BY BRITISH TRAVELLERS, 1790—1848

by GÉZA JESZENSZKY

"*To see ourselves as others see us*" has always been an intriguing experience, for laymen and historians alike. One of the best ways to get acquainted with foreign opinion on Hungary and her conditions is to study those contemporary accounts which are commonly termed travel-books. In most cases such books—especially when written in the previous centuries—contain far more than simply the description of the trip and the "sights". They often comprise a wealth of information on contemporary political events, geography, customs, living conditions, clothing, industry and commerce, mining, culture, institutions, etc. as well as revealing the character and personality of the observer. Their significance in the field of medical history is not limited to the information given on cultural and social history but they also have much to say on the climate, the sanitary and health conditions found in the various parts of the country, the nature and quantity of eating and drinking, the hospitals, public baths, and even on some cases of diseases and their treatment.[1] Of course not all of their statements can be taken at face-value, they do not draw a comprehensive picture and so the contemporary medical situation should not be judged entirely on the basis of what they had seen and written, their evaluation has not always stood the test of time (e.g. on contagion) but on the whole these books are much more than interesting reading, or a collection of antiquarian curiosities.

[1] There is no comprehensive work either on the value of the accounts of Hungary written by foreign travellers or the merits of the British writings as a source for historians. István Gál has drawn an interesting sketch of the visits of Englishmen in North Hungary: "Régi utazók a Felvidéken" in his *Magyarország, Anglia és Amerika* (Hungary, England and America) (Budapest, 1945) pp. 43—49. and notes on pp. 255—256., which had appeared in English: "Early English Travellers in Upper Hungary" in *Danubian Review*, 1939 Nov., pp. 5—11. There are two useful collections of original extracts: István Szamota, ed. *Régi utazások Magyarországon és a Balkán-félszigeten 1054—1717* (Old Travels in Hungary and the Balkan Peninsula), (Budapest, 1891) and Haraszti-Pethő, *Utikalandok a régi Magyarországon* (Adventures in Old Hungary) (Budapest, 1963) with an introductory chapter by L. Makkai. The English impact on the Hungary of the "Age of Reforms" has been well traced in a concise work by Sándor Fest, *Angolok Magyarországon a reformkorszakban. 1825—48.* (English visitors in Hungary in the Age of Reforms) (Budapest, 1920). The medical references contained in Szamota's collection have been separately published by Ignác Schwarz in the *Orvosi Hetilap*, Vol. 1891, Nos. 47 and 50.

Foreign visitors to Hungary have often been struck by the topics of everyday conversations when compared to what one may expect in English homes or in publicians' saloons. Not that current local gossips or more elavated subjects like education, or literature, were missing, but political developments have so often stood in the foreground. The British travellers of the period under consideration shared this experience as they came here at the height of some exciting political development: first in the 1790-s when enlightened absolutism (with its contraversial aspects for Hungarian national feelings) began to give way to unenlightened reaction as the repercussions of the French revolution reached Hungary. Then came devalvation in 1811 and the ensuing economic plight of the country coinciding with the last phases of the Napoleonic Wars, and finally, from the 1830's onwards, the brilliant epoch of the renaissance of the nation, the Age of Reforms, with all its exciting political and cultural developments. Under these conditions it is quite understandable that the attention of the British wayfarers—even when they were physicians—was focused more on the economic-political than on the medical questions. So while these accounts should serve as invaluable sources for the general historian, they are of considerable interest—though not indispenseable—for the medical historian as well.

At that time (and still for a long time to come) Hungary was on the fringes of Europe, or according to many Viennese, was in Asia which started at the end of the *Landstrasse* leading from Vienna towards Hungary. Would-be visitors to Hungary were overwhelmed with warnings, advice and threats about the dangers of going to such a country.[2] But there were those people who had no choice but had to go: many emissaries and legates sent to Constantinople to the Sultan preferred the land-voyage and passed through Hungary. One of them was an English physician, Edward Brown, who spoke with great sympathy on the fate of the Hungarians who saved Europe from the Turks. One may believe him as he travelled both in unoccupied royal Hungary and through that larger but greatly devastated part which was still under Turkish rule in 1669—70, at the time of his journey.[3] Soon after the end of Turkish occupation in 1717 Lady Mary Montague also reflected on the contrast

[2] In this respect there was hardly any difference between 1793 and 1836. The traveller, minerologist and botanist Townson was *"assured the difficulties the traveller had to encounter in Hungary... were, for the want of civilization, very great... a country which, according to the accounts current at Vienna, was little better than in a state of nature, and its inhabitants half savage."* Robert Townson, *Travels in Hungary, with a Short Account of Vienna in the Year 1793* (London, 1797), (hereafter cited as Townson), pp. 32—3. Forty-three years later John Paget was told practically the same: *"The reader would certainly laugh, as I have often done since, did I tell him one half the foolish tales the good Viennese told us of the country we were about to visit. No roads! no inns! no police! we must sleep on the ground, eat where we could, and be ready to defend our lives at every moment."* Johm Paget, *Hungary and Transylvania, with remarks on their condition, social, political and economical* (London, 1839), 2 vols. (Hereafter cited as Paget), pp. 2.

[3] Edward Brown, *Accounts of several travels in Hungaria, Servia, etc.* (London, 1673).

between what she saw and the prosperity and splendour of Hungary before the onslaught of the Turks.[4]

The population of the country was reduced to two and a half millions, nearly the half of what it was during the reign of Matthias Corvinus. In seventy years it was augmented to 8 millions by massive colonization, but the newcomers were not Hungarians and so the Magyars became a minority in their own country, thus laying the foundations of later conflicts and the loss of much of their former territory after World War I. It was relatively easy to invite new settlers, but to make the land once more habitable was more difficult. The climate of the regained territories was considered as the most unhealthy in Europe due to frequent floods and permanent marshes. These generated intermittent fever, malaria, while the country was constantly threatened by the plague and other contagious diseases arriving from the Balkans where the Ottoman Empire was still holding out. The hospitals and the sanitary institutions of the 15th century towns disappeared during the two centuries of incessant warfare and plunder, together with the apothecaries and doctors. Their place was filled by quacks and their remedies, or by barbersurgeons at best.[5] The government started to improve matters by taking a census of all medical personnel (1724), prescribing all the counties to employ a medical officer (1752), drawing up a general regulation of all health-matters (1770), and by establishing the first medical faculty at the University of Nagyszombat (1769) transferred to Buda in 1777.[6] The Hungarian Diet also prepared its plan for the reform of public health in one of its committees in 1792–93, but the reaction that set in as a result of the French revolution set aside and even prohibited all measures which aimed at improving the social and political basis of the existing evil state of all public matters and instead concentrated on their superficial treatment like quarantine stations and orders that could not be enforced. Gradual change and improvement started only in the late 1820-s when the best elements of the nation partly succeeded in taking matters in their hands and the period of national revival known as the Age of Reforms started.

The late 18th century saw a great increase in the number of travellers in Europe, among whom the British led the way. The more venturesome went as far as Turkey and on the way there or back Hungary was sometimes included in the itinerary. An increasing number or these people were now travelling for pleasure but that did not prevent them from making interesting, frequently very pertinent observations on the country and its institutions.

The circumstances of these visits had many common features throughout

[4] *"Indeed nothing can be more melancholy, than travelling through Hungary..."* Letters of Lady Montague, written during her travels (Paris, 1799).

[5] For a detailed description of the health situation in Hungary in the period following the ejection of the Turks see György Gortvay, *Az újabbkori magyar orvosi művelődés és egészségügy története* (The History of Medical Culture and Public Health in Moderne Hungary) (Budapest, 1953), esp. pp. 1–44.

[6] The early years of the Medical Faculty has quite rich recent literature. Cf. *Communicationes de Historia Artis Medicinae*, 1969, No. 51–53 and 1971, No. 57–59.

the whole sixty years: they had found the country extremely cheap and could obtain everything: food, accomodation and services for trifles. But generally they did not have to bother even about these as they were everywhere received with the greatest hospitality by the most well-to-do magnates of the country. One letter of recommendation was enough to launch the visitor into a circle where he could not resist from passing from one hand into another, but even without such recommendations they could rely on the services of any land-owner, country squire, priest or officer. It is not difficult to find the explanations of that hospitality. First, there were still very few travellers venturing into Hungary. One of them, William Hunter was right in remarking: "*Indeed, in all countries, that are rarely visited by travellers, hospitality is a leading virtue; and those few, who make their appearance, meet with a reception that is highly flattering and grateful to the heart.*"[7] The other reason was due to the peculiar position of England *vis a vis* the Austrian Empire during the whole period: the two countries were allies against Napoleon, and that recommended every Englishman to all officers and loyal notabilities. On the other hand, however, England was considered as the stronghold of liberties, a constitutional monarchy, which fact guaranteed her representatives a warm welcome in those wide circles where the whole spirit of reform (to a great extent generated by English examples and visits to that country) had its origin. The occasional English visitors were everywhere received and treated as Hungarian noblemen and enjoyed their privileges: they were exempted from paying tolls and taxes, could easily obtain the letter which ordered all peasants to put horses at their disposal for the prescribed low sum, and so on. All that did not prevent the visitors from noticing most if not all the ill effects of an antiquated social system, and travelling in the country revealed before them very clearly the contrast between the conditions of their hosts and the people. They did not only see how bad the roads were—maintained by peasants as part of their obligations—, that the inns were wretched with dirty rooms and uninviting beds which could be rendered usable only by the sheets and cushions carried by the travellers themselves, that food was rather scarce and unvaried, wine nearly always bad, but also the general position of the peasantry and the need for change in that respect. Due to their financial independence and the hospitality of their hosts they were not exposed to too great inconveniences and hardships but as they came from a more developed country their keen eye noticed much that was deficiant and outdated. Hunter's observations are relevant in this respect, too: "*Hungary is certainly one of the most fertile divisions of Europe. Indeed I know of none which yields, in such abundance, so great a variety of valuable productions. For its wine and corn, its cattle and fruits, its metal and salt, those most estimable of all commodities, it is peculiarly distinguished. Its climate is*

[7] William Hunter, *Travels through France, Turkey, and Hungary, to Vienna in 1792. To which are Added, several Tours in Hungary in 1799 and 1800. In a Series of Letters to his Sister in England.* (3rd ed. London, 1803), 2 vols. (Hereafter cited as Hunter), II. pp. 250–1.

excellent, and its soil rich. It is intersected by some of the largest rivers in Europe; and inhabited by a brave and hardy race of men. But all these natural advantages are prevented from producing a due effect, by the palpable imperfections of its political institutions; and although these have, within the last fifty years, been materially corrected and improved, they still occasion a powerful counteraction to the vigour and welfare of the nation."[8]

With later travellers the political situation and the movement for its changing was even more in the focus of their interest. Shortly after Hunter Dr Bright could already remark with hope: "...*the patriotism of her nobles is producing an extensive, though gradual improvement in her internal prosperity.*"[9] The greatest concentration on the political, social and economic conditions of Hungary can be found at John Paget, another physician, whose book is both an important source on the Hungary of the 1830's and a moving testimony of the attraction the country had on this most congenial character.[10] Both he and Miss Pardoe[11] were captured by the spirit and momentum of the reform movement and both influenced and at the same time were influenced by the leading characters of the "reform generation". Their criticism was directed at the very same symptoms and institutions the Hungarian liberals were intent upon changing. As a result they—as all the later travellers—had less space for such matters as sanitation and medical affairs but concentrated upon political debates, history, constitutional questions and the like. By that time both medicine and public health had already reached such a stage that the inadequacies were no longer so apalling and striking as previously, and consequently required less comment.

At the end of the 18th century, however, the country was still subject to outbreaks of the plague (1786, 1795, 1813–14) and to frequent smallpox

[8] Ibid. II. p. 464.

[9] Richard Bright, *Travels from Vienna through Lower Hungary with Remarks on the State of Vienna during the Congress in the Year 1814.* (Edinburgh, 1818) p. VII. The well-known physician and his journey aroused considerable interest, especially in medical circles, in Hungary even in later years and his book was dealt with in numerous publications, listed in the latest selection from his writings: Imre Szerecz, ed., *Richard Bright utazásai a Dunántúlon 1815* (Richard Bright's Travels in Transdanubia in 1814) (Veszprém, 1970).

[10] John Paget (1808, Thorpe Satchville — 1892, Gyéres in Transylvania) took his M.D. in Edinburgh but never practised. He visited Hungary in 1835–36 and published his authorative account in 1839 that went into several editions both in English and in German. Paget married a Hungarian woman, took part in the War of Independence, emigrated, and later returned to die a Hungarian. This remarkable product of the best raditions of the 19th century is buried in Kolozsvár. See John Kovács, *An Oration in memory of the late John Paget Esq.* (Kolozsvár, 1893); József Balogh, "John Paget (1808–1892)", *Hungarian Quarterly* 1939. pp. 610–632. and 1940. pp. 65–81.; István Gál, "Paget, Erdély angol honpolgára" (Paget, an English Transylvanian) in *Pásztortűz,* 1939 Sept, also in *Magyar Nemzet,* 1940, March 24. and in *Magyarország, Anglia és Amerika,* pp. 126–131.

[11] Julia S. H. Pardoe, *The City of the Magyar, or Hungary and her Institutions in 1839–40.* (London, 1840) 3 vols. (Hereafter cited as Pardoe.)

epidemics (1778, 1811, 1823–24). The first effective means of fighting them was the quarantine established on the eastern and southern boundaries of the country in the middle of the 18th century. William Hunter arriving from Constantinople via Wallachia in 1792 was compelled to spend 10 days at the lazaretto of Vöröstorony (Transylvania). But he justly claimed that if he had succeeded in concealing the fact that he had been in Turkey, too, and not only in Wallachia, he would have been allowed to pass in spite of the fact that he might have contracted the disease in the latter country from somebody passing from Turkey. This shows "the absurdity of the regulation" or the shortcomings of the whole quarantine system. This latter aspect is born out by the fact that not all the stations observed the regulations with equal thoroughness. Hunter on his second journey was compelled to be content with seeing Belgrade only from the river, in the company of an officer of the quarantine station to guarantee that he did not set his foot on Turkish territory. But on the same trip, further down the Danube at Orsova, he found less strict regulations and was allowed not only to visit the Turkish pasha on the island of Ada Kaleh but even enjoyed his coffee and pipe.[12] Thirty years later John Paget had a similar reception at the same place. He had indeed little confidence in the effectiveness of the system as he was witness of its continuous infringement by smugglers of all sorts of articles, especially salt. *"And then, what has become of the paternal anxiety to keep out the plague, which led to the establishment of such a vast and perpetual cordon as that of the borders? It is certain, that not a day terminates in which men with bags of salt do not pass from one country to the other, without any intervention of quarantine, or process of purification."*[13] Paget's liberal sprit did not condemn the smugglers for that , and did not ask for a tightening of control, but blamed the unfairly high price of salt made possible by the King's monopoly. *"For the maintenance of a paltry tax, the health of all Europe is constantly exposed to an invasion of the plague!"*[14]

Luckily, however, the plague was not reintroduced into Hungary by the smugglers. In 1840 Miss Pardoe could only see its memorials, the plague-columns. *"As I have already stated, these plague-columns are common throughout Hungary, ... they are pillars of stone, variously designed, but all profusely decorated with figures of the Virgin and other holy individuals, among whom St. Roch is always conspicuous; and that they had their origin in the time when the Turks brought with them into Hungary the direful visitation of the plague, having been erected as propitiary altars to the Deity, at the foot of which the priests and people offered up their supplications against the frightful scourge with which they were threatened. Fortunately they are no longer available for so melancholy purpose..."*[15]

But the system of the quarantine failed to keep out the cholera raging in Russia and reaching in 1830 the borders of Galicia. The frontier was closed

[12] Hunter, II. pp. 402–05.
[13] Paget, II. p. 362.
[14] Ibid.
[15] Pardoe, I. p. 39–40.

from the second half of 1830 but in 1831 the disease made its appearance in the counties of Upper Hungary. In spite of all the precautions and restrictions about half million people fell ill with 40 percent lethality. The panic and famine accopanying it led to bloody riots, especially among the Slovak population. There is no account of that epidemic in English but later travellers heard much about it even years after the events. There was a fresh outbreak of it in 1835–36 in the southern and eastern parts of the country with the even higher mortality of 58 percent. At that time Paget was travelling in Transylvania and witnessed its devastations, together with the helplessness of the authorities.

"The cholera was raging frightfully through almost every part of the land, and the peasantry, the chief sufferers, had no one from whom they could ask or expect aid and advice but their lords and ladies; and nobly, in many instances, did they perform their duties. Personal attendance even is some cases, and medicine and food in almost all, were liberally supplied. Of the numbers who perished during this attack it is impossible to give any account; I doubt even if it is known. In Klausenburg,[16] *for some time, the number of deaths amounted to from twenty to thirty a day; and before it ceased, probably not less than one-twentieth of its population was carried off. I have heard of some villages in which even a tenth perished."* He lived near the gate leading to Házsongárd, the famous cemetery of Kolozsvár (which was to become the resting-place of the author, too), and could see no end of the sad processions. *"These melancholy scenes, and the continual tolling of the great bell, rendered Klausenburg realy more like a city of the dead than the living..."*[17]

It appears that this time (unlike 1831) there were no restrictions on movements inside the country and Paget and his company could set out for the country in the midst of the epidemic. *"At every step we took, the cholera now met us. One of our horses had cast a shoe, and we had to wait some hours before we could get it replaced, for the blacksmith's wife was just taken ill, and he could not be prevailed upon to leave her till she felt better."* At that time no remedy had as yet proved effective against the disease and even its nature was unknown. Paget the physician knew that they too were in danger, but thought that as they had no means to avoid it, they should not be disturbed in completing their planned tour. Furthermore, he did not consider it to be contagious: *"Though no believers in contagion, we were aware that whatever were the causes*

[16] Hungarian Kolozsvár, today Cluj, Rumania. Most English travellers used German maps which put the names of towns in German. As much as they were known by British readers they were also known by the German names, e.g. Pressburg for Pozsony (today's Bratislava). Many of these towns were indeed German in character and inhabited either by the "Saxon" colonizers of the 12th and 13th centuries, or by newcomers from Germany who decided to try their fortune in Hungary after its liberation from the Turks. In addition the language used by the English visitors in their contacts with the Hungarian gentry was also German, which again was in favour of the use of the German versions. In case of smaller places, however, most writers had no choice but to be content with the name given to it by the local community.

[17] Paget, II. pp. 336–7.

producing the disease, we were just as much exposed to them as the inhabitants of the country could be, and besides, the very idea of travelling for pleasure where death seemed hovering round our every step was so painful that we hastened on more quickly than we otherwise should have done through this beautiful country."[18] He added a characteristic note to these sentences. *"To those who believe in the antiseptic powers of certain substances and their utility in preventing the spread of epidemic diseases, it may afford matter for reflection, that here, where everything, from the corn you eat to the water you wash in, perhaps the very air you breathe, is impregnated with salt—one of the strongest antiseptics—the cholera raged with as much violence as in the poisoned alleys of a great city."*[19] *"Though no believer in contagion"*, Paget nevertheless did not agree with those who thought that the *"spoilt air"*, or generally the climate was the cause of infectious diseases: the village of Homoródalmás *"was one of the largest and most flourishing we had met in Transylvania. The situation of this place one would have thought as healthy as possible; the country round it was fruitful and lovely as a garden, the inhabitants were evidently well off, and the houses large and airy, yet here the cholera was raging more fiercely than in any other place we had yet visited. The graveyard seemed to have been fresh ploughed up, so completely was it covered with new-made graves, and several were standing open for occupants already prepared to fill them."*

There were other epidemic diseases which took their toll until the 1840's when the regulation of the rivers and the spread of medical culture gradually put an end to so many of them. The most common ones were: typhus, measles, diphteria, rabies, "Russian" influenza etc. In the 19th century smallpox was no longer the same dreadful and common disease than previously. At first variolation was administered but it spread rather slowly, until Jenner's discovery completely changed the situation. Vaccination was made compulsary in 1813. This was a remarkably quick reaction though its execution was far from being easy due to the lack of physicians and vaccine as well as to the aversion of the population. The first steps in this direction were witnessed by Dr Bright. *"...here, as in other places, great improvements make their first progress slowly; and, though De Carro introduced vaccination into Vienna in May 1799, more than two years elapsed before it was attempted at Pesth. In August 1801, Dr. Bene inoculated the first subject. Afterwards, when its efficacy was seen, the inoculation of the cowpox rapidly diffused itself throughout the country."*[20]

The climate and the lack of sanitation greatly contributed to the frequency of some diseases, especially in the south, which had been most affected by Turkish misrule and indolence. Temesvár (today Timişoara in Rumania) and the surrounding Bánát, once—and today too—one of the richest and most fertile districts, had an especially ill fame. Around 1770 I. Born spoke of it as "the country of death" inhabited by "living skeletons"[21] and Hunter did

[18] Ibid. pp. 404–5.
[19] Ibid.
[20] Bright, p. 288.
[21] I. Born, *Travels through the Bannat of Temeswar* etc. (London, 1777).

not find it better either: *"The air of this place, from the low and swampy lands which surround it, is extremely unhealthy, and, in the summer months, generally occasions an epidemic fever which proves very fatal to strangers. Great sums of money have been expended by the government to drain these marshes; but, although the atmosphere has been rendered less prejudicial than formerly, they have proved hitherto, in great measure, ineffectual."*[22] Bad water too had its part in causing similar effects throughout the whole Hungarian plain where well-water was nowhere suitable for human consumption, which left wine as the only substitute. Temesvár's water came from the Béga canal, dug in the 18th century to drain the marshes, and could not produce the best health if drunk. Returning to Temesvár in 1800 Hunter again had to refer to this subject: *"Temeswar is, indeed, reckoned one of the most unhealthy parts of Hungary, and produces such fatal effects on strangers, that, out of eight hundred French prisoners, who were brought here about ten months ago, four hundred are already dead, and the hospital is full."*[23] (Other matters stood hardly better, e.g. vainly did he search for a bookseller in the whole town.)

The health of the population was affected by other circumstances, too. The diet was unvaried, scorbutus was very common, floods were generally followed by famine, bread made of wheat became usual only after the Napoleonic Wars when suddenly there was a surplus in wheat. Although visitors did not have to complain of hunger as their money was superior and as famine occured only in bad years, they found very little to praise in the food they could have at inns. Yet in the country-houses of the nobility they could always forget the food of the inns.

They had more justified complaints against dirtiness. Hunter observed that the houses of the villages were very neat from outside, but inside he could only find squalour and dirt, men and animals living together.[24] *"Such is the filthyness of their habitations, that they are obliged to anoint their bodies with rank grease to protect them from vermin. This is never washed off, so that you may imagine the die of their skin; and the few, who wear linen, never think of quitting it, till it quits them. Their hair, which they allow to grow to its natural length, is also moistened with grease, and, never combing it, or even disentangling it with their fingers, exhibits one clotted mass of nastiness."*[25] Paget made similar observations, only with more humour and understanding. Bright did not only notice the uncombed hair of his Slovak driver but also the resulting disease. *"My driver was a Sclavonian peasant, a rough unpolished creature, whose matted locks, falling from a little dirty cap of leather, hung over a thick cloak made of woolen blanketing. To add, indeed, to the filthy appearance of this figure, he was afflicted with that unseemly disease, known by the name of Plica Polonica, in which the hair grows so matted, that it is impossible to disentangle it, and becomes actually felted into*

[22] Hunter, II. p. 145.
[23] Ibid. p. 449.
[24] Ibid. p. 225.
[25] Ibid. p. 227.

balls, which, from an unfound apprehension of bad consequences, the peasants are unwilling to have removed. This disease is not, however, common in Hungary, and is, I believe, nearly confined to the northern districts."

The preservation of health was indeed not easy under such circumstances, and if one felt ill there were few remedies except nature or popular experience. There were very few doctors of medicine in the 18th century and their place was filled by surgeons and barbers (barbitonsores) or midwives. Medical affairs was, however, a growing concern on the part of the government, partly because the development of the country recquired it, partly because it was not covered by the old feudal rights of the nobility and consequently it left more room for government interference. The 1752 decree of the Consilium Locumtenentiale (Governing Council) recquired all counties to employ a county physician, in 1770 a general health regulation (generale normativum in re sanitatis) appeared and in 1786 the office of national head-physician (protomedicus) was established (with a separate one for Transylvania). But the efforts of the Diet to draw up a Health Act (in 1793 and 1825) having failed, this was left to the historic Parliament of 1848.

When physicians were scarce (and those few worked in the towns) and even the surgeons and midwives were lacking proper qualifications, much depended on the local landlord as to the health of the peasants. They could look up for help only to him and to the local priest when their own medicaments (mainly herbs) failed them. Sometimes this patriarchal way of curing was quite sufficient when the landlord had some medical knowledge or the lady was especially warm-hearted. The British travellers met such cases. In 1815 Bright spoke with great appreciation on a fellow-doctor. *"Graf Emmerich Batthyani* (Batthyány Imre), *of Nemeth-Újvár, is himself an excellent physician, and few places to which invalids resort for their health, will be found more frequented than the mansion of the Graf at Polgardi in Hungary. Persons of all conditions, and of all religious persuasions, there receive, without distinction, gratuitous relief. He dispenses the medicines gratis, and with so much benevolence and care, that he puts all other concerns out of view, when patients require his assitance; and of these a considerable number assemble daily, for they come in crowds to the Graf... It is impossible that more kindness could be exhibited, if he were regularly paid for his attendance. When he understands that any of his peasantry are ill, and unable to come, he repairs to their cottages, however distant they may be, and sends the necessary relief; and it is not only with medicines, but with grain, money, and other benefactions, that he endeavours to soften their calamities. He is the father as well as the lord of his peasantry."*[26]

Paget witnessed a similar devotion in Transylvania when the cholera reached the village of Szentgyörgy near Torockó. *"For these persons we found the Countess was the sole physician, her house their dispensary, and sometimes even their hospital, for she had had several brought there, that they might be better attended to. Several times, during dinner, her daughter was obliged to leave the table to*

[26] Bright, pp. 627–8.

send off medicines for some new patient who claimed her aid. In this she was assisted by the steward and the clergyman, who seemed both to take an active interest in the fate of the poor sufferers. During the short time we remained, five more deaths were reported."[27]

When emergency did not require the direct help of the landlord or his household, the task of supervising the health of the peasants fell on the doctor of the lord, occasionally visiting the estate. Paget describes a typical case. "*Or it may be, the doctor has come over to see after the health of the family, and the seigneur takes that opportunity to lead him round the village, that he may bleed and physic all those who have wanted it for the last three months, or who are likely to want it for the next three months to come.*" And he adds a note: "*A worthy old Baron, now dead, used to have the doctor over every spring and autumn with a waggon-load of herbs. These herbs, duly decocted and distilled, were administered to the whole family and village, which were then considered sound for six months to come.*" Even such paternal care could be showed only where the landlord did not spend most of his time in Vienna or abroad, and it was more common in Transylvania than in the rest of Hungary.

The towns and some ecclesiastical institutions had their hospitals well before the Turkish wars. They were often connected with the home for the poor and for the aged. The new establishments of the 18th century still bore this mark for a long time, and only the most desolate people were admitted who otherwise would have died in the streets. At that time to be taken to hospital was considered as a sign of the approaching end and it served only to ease the last hours of these miserable people. They were maintained by public donations (even the daily food had to be collected in such a way), and the example of the hospital of Keszthely shows that for a long time it remained so. The hospital "...*is rather a poor-house, than an institution for the cure of the sick. It is managed with much attention, and the inmates receive many little conveniances, and even luxuries, from the pious offerings of persons in humble life, who, from religious motives, and for the fulfilment of vows, bring gifts according to their means.*"[28] The hospitals maintained by some religious order were in a better position and they were well organized. Miss Pardoe spoke at length on some of them. "*The Elisabethans, or Sisters of Mercy, whose convent is one large hospital for the sick and the needy...*" were in Pozsony, where there was another hospital of the Brothers of Mercy.[29] Both here and in that of the Sisters of Charity in Buda[30] she found good order, cleanliness, and much kindness.

The progress of the idea of public hospitals in the modern sense of the word, where emphasis in on curing and not on charity, was rather slow in Hungary, Buda had one already in 1710, but its capacity remained small even after build-

[27] Paget, II. p. 350.
[28] Bright, P. 448.
[29] Pardoe, I. pp. 13–15. The detailed account of the visit is on pp. 46. and 51–2, resp., including a moving description of their self-sacrifising activities.
[30] Ibid. III. pp. 155–6.

ing a second floor on it. Pest, too, had its public hospital, but in 1793 Townson found it in a horrible state. *"For hospitals this town is badly off; that belonging to the University is good, but can admit very few; twelve or fifteen only, and that which belongs to the town, and is called the Burgers Hospital, is, I hope and really believe, the worst in Europe. Had I not seen it, I could not have believed such to have existed in this town. Every thing here, building, furniture, attendants, etc., etc. is miserable, stinking, and dirty. In a little shabby room, in which were eight beds, there was only one small window, and this shut, though the weather was hot... Surely Joseph II never was in this hospital, or he would have suppressed it as an insult to humanity."*[31] In the very same year the director of this hospital addressed a memorandum to the Council of Pest to have a new building erected. As a result in 1798 the Szent Rókus (St. Roch) Hospital was opened with 207 beds. It was transformed from a poor-house built in 1784. By additions it contained 400 beds in 1840. It might be well worth to quote at some length Miss Pardoe's account of her visit, especially when considering that the building still exists and is used as a hospital.

"It is a large, cold, bleak-looking building with vaulted passages, as comfortless in appearance as a deserted manufactory; and I was really glad when my attention was directed to a handsome edifice now in progress of erection, which has been very ably designed, and is to be built with great solidity, for the reception of about eight hundred patients... The building in its present state is calculated to accomodate three hundred patients, the average number generally to be found there being about one hundred and seventy. It is the largest establishment of the kind in Hungary... The most perfect and scrupulous cleaniliness was perceptible throughout all the arrangements; and the venerable Director... informed me that from the 1st November 1838, to the 31st of October 1839, six thousand two hundred and eight patients had been admitted at St. Roch; of whom five thousand two hundred had left the establishment cured, and six hundred and thirty-three had died. As it was what is here termed "a fever-year" the mortality was above the usual average. Of these patients two thousand three hundred and ninety-five had paid a small sum towards defraying the expenses of their illness, leaving three thousand eight hundred and thirteen who were treated gratuitously."[32]

One can see that although the hospital did not yet assume a completely modern character where the emphasis is decidedly on admitting persons who have a good chance of leaving it cured, but it was well on that way. The poor-house function was already partly separated: *"Attached to the Hospital is an Almshouse, where thirty poor men and thirty poor women, all above sixty years of age, are clothed, fed, and lodged."*[33]

Miss Pardoe concluded her account with some general observations: *"The situation is very advantageous, being open and airy; but the building suffered*

[31] Townson, p. 78.
[32] Pardoe, III. pp. 17., 22–3.
[33] Ibid. p. 23.

considerably during the inundation,[34] *having been flooded for a depth of ten or twelve feet.*

It may appear singular that in a country with a population of eight hundred thousand,[35] *the Hospital of St. Roch, which, even the new edifice is completed, will contain only eight hundred individuals, should be the largest sanatory establishment in existence; but it must not be forgotten that the self-devoted communities of Mercy, both male and female, provide for a vast number of sick, and the convents of this order are very numerous in Hungary."*[36]

It was in 1839 that an institution quite unique in its kind was established in Pest: the Children's Hospital of Ágost Schöpf-Merei, whose name became well-known in England when he settled there after the defeat of the Hungarian War of Independence in 1849. No wonder that the sensitive and sentimental spirit of Miss Pardoe was so much captured by it. It would not be without interest to quote the whole long passage dealing with it,[37] but space permits to reproduce only some extracts: *"The situation of the house is excellent, opening upon gardens on both sides, and its interior arrangements are admirable. It is like a model for a hospital, containing only five chambers and fifteen beds of different sizes, seven of them being adapted for the accomodation of the mother as well as the child; but great additions are about to be made through the philanthropy of wealthy and influential persons... At present there are two assistant physicians, a housekeeper, and three nurses, attached to the establishment; a neat little laboratory, and operating and dissecting rooms; no expense is spared in the treatment of the patients, and the most unwearied attention, as well as the most skilful exertions, are lavished upon the sick.*

No children are received after their thirteenth year; and only the most severe and dangerous cases are admitted, owing to the extremely limited nature of the establishment; but in addition to these, the charity takes charge of numerous outpatients, who are visited and treated in the houses of their parents.

This year about seven hundred and fifty patients were attended by the physicians of the institution, one half of which number were received into the house: the mortality averaged ten in the hundred; a small proportion when it is remembered that none but dangerous, and even desperate cases are considered eligible."[38]

Miss Pardoe also visited the Blind Institution where children were taught reading, writing and music, with gymnastic exercises for recreation, by professors generally under the same deprivation.[39]

[34] The famous flood of 1838 when a large part of Pest was destroyed by the icy waters. At another part of her book (II. pp. 18–40.) Miss Pardoe gives a detailed account of the sufferings of the population with a special emphasis on medical aspects, based on one of Ágost Schöpf-Merei's books.
[35] Evidently a mistake, the real figure was about one hundred thousand for Buda and Pest, and over 10 millions for whole Hungary.
[36] Pardoe, III. pp. 23–4.
[37] Ibid. pp. 24–32.
[38] Ibid. pp. 30–32.
[39] Ibid. p. 154.

The two latter institutions are testimonies to the development of Hungary in the Age of Reforms, mainly due to individual efforts and not supported by any government policy. By contrast, the University did not show a similar progress. Following its transference to Pest in 1784 it underwent reforms in 1786 and 1808–09 respectively, partly contradicting each other.[40] The king wished for good citizens and not for enlightened men and scientists, and this spirit gradually gained ground at the university, too. Foreign influences and literature were excluded, political conformity was preferred to erudition, which resulted in mediocrity at best. When in 1815 Bright visited the university he still did not find it necessary to criticise what he saw and gave only a detailed description of the curriculum without any personal comments, although he, too, noticed that the number of students showed some decrease.[41] On the other hand he found much to praise in the hospital of the university, which he visited in the company of the botanist professor, Pál Kitaibel. *"The Clinical Hospital... is small, but excellently calculated both for the benefit of the patients, and for the instruction of the pupils... I was much pleased with the order and regularity with wich this hospital is conducted; and am not sure, that more celebrated institutions might not gather hints from the proceedings of this distant and almost unknown medical school."*[42]

He was equally favourably impressed by the lack of religious discrimination at the university: *"...amongst the students of this Catholic country*[43]*, many professed the evangelical Lutheran doctrines, many were of the Reformed church, many of the Greek church who had refused to conform, and ten were Jews. It is a lesson which leaves no room for comment..."*[44] In 1840, however, Miss Pardoe took troubles to ascertain whether the criticism of the University both for its low standards and discriminatory practices, of which she had been told in Pozsony by *"a very intelligent young medical man"*, had any foundations, *"and found that they had in no instance been exaggerated. He further assured me that, a Professorship once granted, the collegiate authorities gave themselves no trouble whatever on the subject of the eligibility of the cadidate for the task which he had undertaken: his class was assigned to him, and the students must attend it, whether satisfied or not, if the political tenets of the Professor were such as to render him a welcome acquisition to the Directors, and the Government."*[45]

[40] While the first incorporated the lower surgical course into the rest of the studies, the latter while raising the length of education to five years again separated the two.

[41] Bright, pp. 271–4.

[42] Ibid. p. 272. Bright spoke with great appreciation about Kitaibel *"to whose kindness I was several times indebted while at Pesth"*, *and who is "well-known by his writings in the scientific world."*

[43] Meaning of course the character of the Court and the whole government, whereas nearly the fourth of the population was Protestant.

[44] Unquestionably a reference to the English universities. Both Oxford and Cambridge lifted religious restrictions only in 1854 and 1856 by Acts of Parliament.

[45] Pardoe, III. p. 12.

The Pest University at that time was not a Hungarian university either in language (up to 1844) or in spirit. Miss Pardoe's informant for instance had much trouble in obtaining his diploma as a physician because he had moustaches—a typical Hungarian feature. Another one, *"both being a Protestant and a Liberal"*, was refused the certificate for his insufficient politeness shown towards the professors.[46]

While the university became a tool of the government and lost its earlier tolerant character, the inhabitants of the country became more enlightened in their religious views and demanded the discontinuation of intolerance, both in religion and in politics. Paget's conversations in Transylvania show this quite well. *"It is a common thing, among both Catholics and Protestants, for the best informed of the young people—the old cling to the faith and observances of their forefathers with a fervent and sincere attachment—to speak of religion as a useful means of influencing mankind, of Christianity as a beautiful moral system; but there are very few with whome I have spoken seriously on the subject, who have not denied its Divine origin."*[47] What was especially remarkable in the views of these young liberals is the lack of dogmatism and extremism which was—and is—so common in other cases of young rebels. When Paget was astonished to find an influential young Calvinist not to believe in religion, he was answered: *"I may not believe the dogmas of the Reformed Church, and yet have a strong conviction that the principles of the Reformation, the right of free inquiry, and the duty of every man's forming his own opinion, are just and true. What I contend for now is the independence of our schools and colleges with respect to any interference on the part of an absolute and Catholic Government. In that I am as Protestant as the best believers amongst them."*[48]

What other subjects raised the attention of the English visitors in the field of medicine or health? Quite many. Nearly all of them spoke at some length of the mines of Upper Hungary: Körmöcbánya, Selmecbánya, Gölnicbánya, etc., and many visited the salt-mines of Transylvania, too. In these accounts one finds frequent references to working conditions, safety, and the like. E.g. Pardoe after her visit into the pits complained about the air which *"is already so fatal that very few aged men are to be found among those who labour in it... Its effect upon the boys employed there is painfully palpable; they are thin, wiry, and dwarfed."*[49]

Bright left us an excellent description of rinderpest while at the same time illuminating the debate on contagion. (Physicians then had to have some knowledge on veterinary as well, which was even included in the curriculum.) *"It has been believed by some, that the neglected state of cattle on these extensive plains*[50]*, causes the frequent attacks of pestilential disease to which the herds are subject.*

[46] Ibid.
[47] Paget, II. p. 490.
[48] Ibid. p. 491.
[49] Pardoe, I. pp. 190–1.
[50] He is speaking of the *Mezőföld*, a salient of the Great Hungarian Plain in Transdanubia, along the Danube.

Here, however, the dispute so often agitated, respecting the contagious or epidemic nature of certain diseases, has been renewed; and, upon the whole, it appears to be the prevailing opinion, that this destructive disease, known by the name of the Lösedörre, Rinderpest, or Magensenche, is generally first introduced by contagion. Its most fatal ravages are felt, when the precautions of separating the infected animals from the sound are most neglected. This disease prevails in some parts of Hungary almost every year, and is generally ascribed to communication with infected cattle, brought by dealers out of Walachia, Moldavia, or some provinces bordering on the eastern and north-eastern frontier. On the other hand, however, it is believed by many, that it is often generated in the cattle, by fatigue, and a deficient supply of food while travelling; and that, under these circumstances, the sick become sources of contagion to the herds of the countries through which they pass. Thus the Hungarians lay the blame of their misfortunes upon the Moldavians, and the Germans upon the Hungarians. This disease appears in the form of an acute fever, attented with inflammation of the membrane of the nostrils and fauces, followed in a few days by severe affections of the alimentary canal, and by fatal weakness and exhaustion."[51] Bright even gives some figures on the ravages of the disease in 1795 and 1812, adding that it assumes a regularly returning character in some parts of the country.

Looking back from a distance of nearly two centuries one cannot notice without some astonishment how great attraction the hot baths and other medicinal waters held already then. Most of today's known (or even the less-known) springs and bathing places were frequented both by the peasants and the gentry, and—as we can see—even by foreigners. All the writers mentioned here visited some of them and related their experiences.

The public bathing establishment had a long past in Hungary and were not destroyed by the Turks as they themselves were frequent users of them, but most people went there only for cupping and scarification of for wordly pleasures. The British visitors were quite shocked by some public baths, Hunter for example speaks of *"a scene far too disgusting for description"*,[52] while Bright was scared by the sight of *"only partially covered bodies of both sexes", "splashing in the hot supphureous water... indulging, amidst the fumes, a kind of lethargic slumber."* His spirit was not revived by seeing that *"a poor miserable surgeon was practising the operations of cupping and scarification, studiously inflicting as many wounds, and making as much shew of blood as possible, in order to satisfy the immoderate appetite of the Hungarian peasant for this species of medical treatment."*[53]

The case of the various springs and the bathing establishments built on them in the countryside, amidst beautiful surroundings, was quite different. They were places for entertainment and the early English tourists did enjoy them, if not the waters, then the company. Paget visited many such places. He duly

[51] Bright, pp. 604–5.
[52] Hunter, II. p. 162.
[53] Bright, p. 284. His observations on the medical practices seen at Hévíz near Lake Balaton were similar.

supplied his readers with the ingredients of the waters[54] and the diseases against which they were recommended, but he himself had little faith in their effectiveness.[55] A similar lack of confidence was disclosed by Hunter.[56] In connection with the fashionable bath of Szliács Paget tells a fine anecdote, not without some medical interest.

"Some drink the waters, as well as use them in bathing; and it is considered best to do both together... A trick, neatly played on an unfortunate Austrian Countess, whose pride and illtemper had rendered her the enemy of the whole bath, deterred me from venturing. A mischievous knight, who offered to fill her glas, for her, by a cunning sleight of hand exchanged the clear water of the spring for the dirty contents of the bath; and if the homoeopathic doctrine be true—similia similibus curantur—, gave her an opportunity of getting rid of some dozen horrible diseases at a single draught."[57]

This little anecdote is a clear example of the overall value of the medical references and similar utterances made by British travellers. One ought not have expected from them any serious modification of Hungary's medical past, but their observations illuminate many aspects of it and offere valuable comments on the contemporary situation, both general and medical.

[54] This was made possible by the examinations and publications of Heinrich Johann Crantz (Vienna, 1773), József Österreicher Manes (Buda, 1781), Ferenc Nyulas (Kolozsvár, 1800), J. Winterl and Pál Kitaibel. The comprehensive *Hydrographia Hungariae* appeared in Pest in 1829 and was compiled by János Szilárd Schuster.

[55] It was a common feature of that time (perhaps a late remnant of the Age of Reason) to underrate the value of all natural methods of curing and of popular curing customs in general. Paget visited many spas, including Pöstyén (I. pp. 65–6.), Szliács (I. p. 375), Trencsénteplic (I. p. 94) (today all in Slovakia: Piešťany, Sliač, Trenčianské Teplice), and Mehádia (II. pp. 144–5., today in Rumania).

[56] *"They are in high repute for the removal and radical cure of a variety of complaints. The man who shewed, seemed to have an implicit faith in their efficacy, and was very verbose in relating the prodigies they had operated."* Hunter, II. p. 331.

[57] Paget, I. p. 375.

SOME NOTES ON THE COMMON ARCHETYPES OF PHARMACO-ZOOLOGICAL ILLUSTRATIONS IN THE MSS. COTTON VITELLIUS C., III. AND THE GREEK THERIACA

by ZOLTÁN KÁDÁR

The lost classical pharmacological manuscripts and their illustrations can be reconstructed in the first place on the basis of medieval Greek and Latin Dioscorides translations. Latin pharmacopoeia in late antiquity on the other hand is preserved mainly in the copies of the work *"De herbarum virtutibus"* by the so-called Pseudo-Apuleius that has come down to us in various medieval codices. The above-mentioned work does not exist only in Latin manuscripts, but an Anglo-saxon translation from the 11th century has come down to us, too. It is now in the Library of the British Museum in London known as MSS. Cotton Vitellius C., III.

The significance of this important manuscript among the classical pharmacological works has been first pointed out by Charles Singer, who summed up the results of his researches a follows: (p. 86).[1]

A more detailed analysis of the referring bibliography[2] would lead us too far, let it be sufficient to quote David Diringer's summerizing work published recently where the author stresses the compilatory character of the so-called Pseudo-Apuleian work, and points out that it is a *"compilation from Dioscorides and other sources"*.[3] As the text is adhering closely to various old sources, it seems obvious that it is true for the illustrations which accompany the text.

A conspicuous feature of the illustrations of the MSS. Cott. Vitellius C., III. in London is that the miniatures representing various plants are often accompanied by pictures of snakes and scorpions. Consequently, the illustrations aim at presenting the herbal antitoxins used against animal venom. In the classical

[1] Singer, Ch: The Herbal in Antiquity and its transmission to later Ages. *The Journal of Hellenic Studies*, XLVII (1927) p. 38 cf. pp. 39, 47, 51–52.

[2] The publication of the Cott. Vitellius C., III codex of London: Cockayne, O.: Leechdoms, Wortcunnig and Starcraft of Early England I. In "Rolls Series" XXXV; for the herbals of Pseudo-Apuleius see: Howald, E. Siegrist, H. E.: Pseudoapulei Herbarius, Leipzig, 1927; Gąsiorowski, S. J.: Malarstwo minjaturowe grecko-rzymski, Cracow 1928, pp. 68–72; for the relations between the herbals of Pseudo-Apuleius and the codex of London see: Gunther, R. T.: The Herbal of Apuleius Barbarus, Oxford 1925. p. XXXIII etc. cf. *C. H. Talbot – F. Unterkircher:* (commentary) Medicina Antiqua, Codex Vindobonensis 93, Codices Selecti; vol. XXVII. Graz, 1972.

[3] Diringer, D.: The Illuminated Book, its history and production London 1955, pp. 48–49.

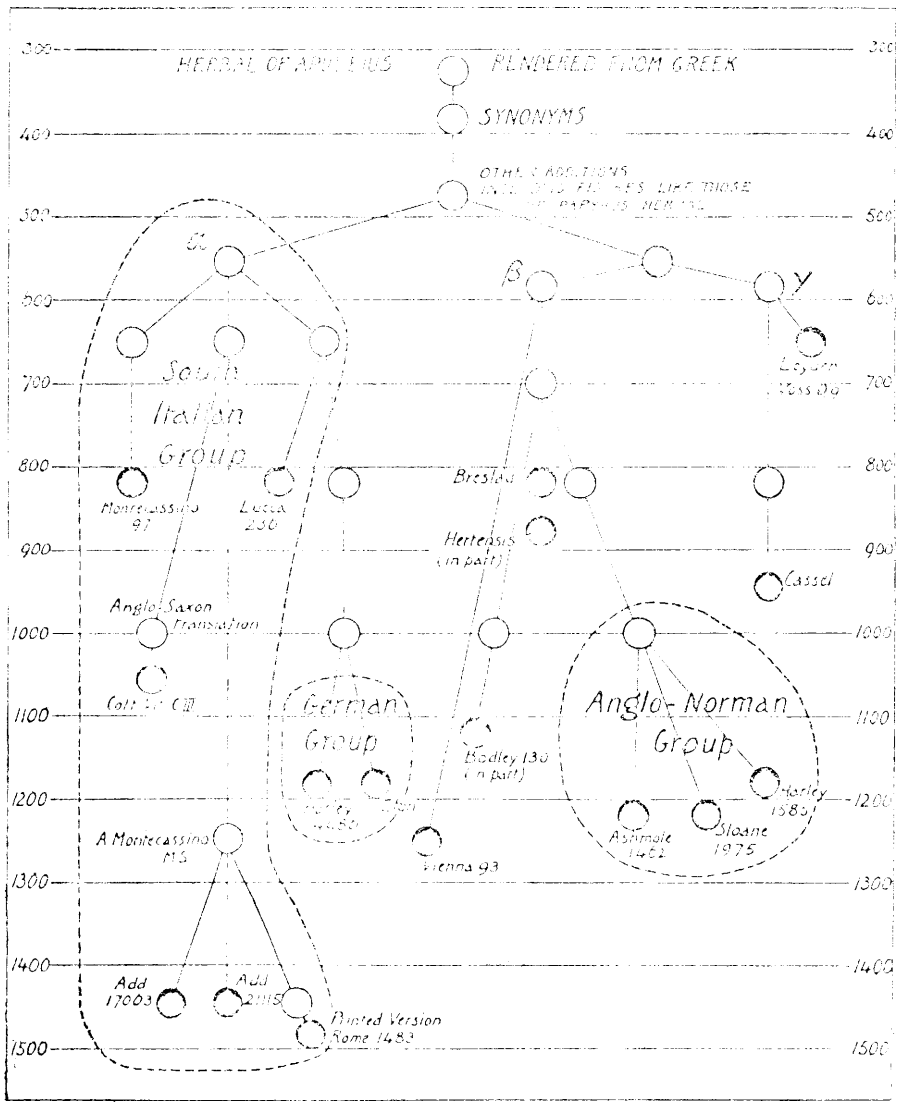


Chart suggesting lines of descent of a few of the more important MSS. of the *Herbarium Apulei Platonici*. The black circles show existing MSS.

"iological" literature illustrations of this kind appeared—as far as we know—in *Theriaca*, the work of Nicander, physician and poet of Colophonian origin in the Hellenistic age. In the 3rd century Tertullian writes on Nicander in his work "*Scorpiace*" as follows: "*Magnum de modico malum scorpio terra suppurat. Tot venena quot et genera, tot pernicies quot et species, tot dolores, qu ot ot colorer Nicander scribit et pinxit.*" Max Wellmann has pointed out[4] that Nicander's work—which was concerned mainly about venomous snakes and scorpions—is not an original one, but was compiled on the basis of the works of Apollodoros an Alexandrine physician in the 3rd cent. B.C. Thus the species of animals described in the work all attest the East-African provenance. For obvious reasons we cannot expect the scribe, not to mention the illuminator of the codex,

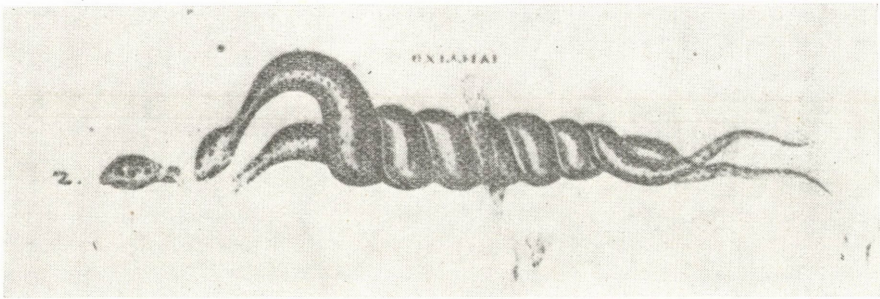


Fig. 1. Vienna, Nat. Bibl. Cod. med. gr. 1. Fol. 399v

produced on Anglo-saxon territory in the 11th century, to have a correct knowledge of the venomous animals of the South-Mediterranean area, nevertheless, in our analysis we shall try to establish the connections between the illustrations of the *Theriaca* manuscript and the miniatures of the London codex representing snakes and scorpions.

Nicander's *Theriaca* has come down to us in one illustrated manuscript preserved in a manuscript dating back to the 10–11th centuries now in the Bibliothèque Nationale in Paris. (Suppl. gr. 247). Some of its pictures represent snakes and scorpions and some of these venomous animals are even identified. The immediate prototype of human representations can be traced back only to the 3rd century, while "*l'illustration marginale dérive directement de l'art héllenistique*"[5]. We know the paraphrase of Eutecnios written to the work of Nicander in the late classical period, the text of two manuscripts was even

[4] Wellmann, M.: Philumenos: *Hermes* XLIII (1900) p. 369. According to him Apollodoros's work was illustrated.

[5] Porcher, J.–Concasty, M. L. Byzance et la France Médievale, Paris 1958, p. 2. (bibliography ibid. p. 2–3), text edition: Gow, A. S. F.–Scholfield, A. F.: Nicander, Cambridge 1953; c.f. also Diringer, D.: op. cit. pp. 49–50; Weitzmann, K.: Ancient Book Illumination, Cambridge, Massachusetts 1959, pp. 14–15, 24, 97–99, 109, lately Grabar, A.: L'art profane a Byzance: XIVe Congrès Int. de Études Byzantines, Rapports III, Bucarest 1971 p. 21.

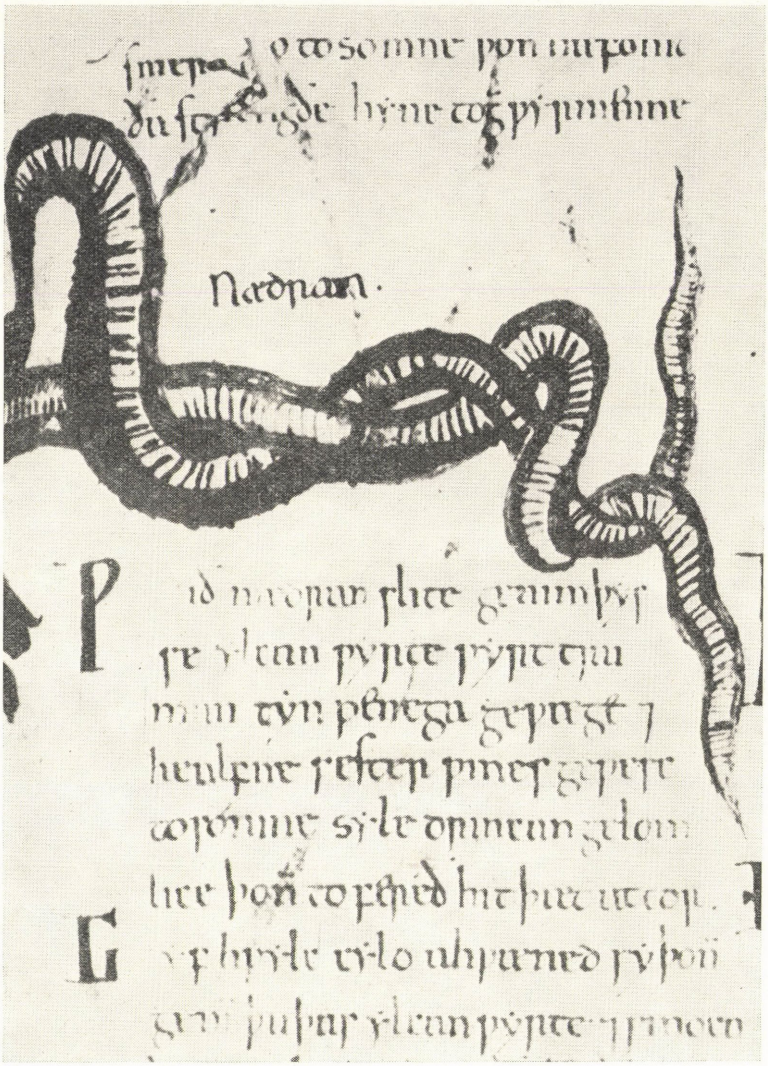


Fig. 2. London, Brit. Mus. Cod. Cotton Vitellius C., III. Fol. 29v

illuminated. Among the pictures we do not find any representation of plants only that of snakes and scorpions which are named. In both the earlier codex deriving from the 6th century (Vienna, Nationalbibliothek, Cod. med. gr. 1.) and the later one dating back to the 10th century (New York, Pierpont Morgan Library, Cod. M. 652) the way the snakes are dealt with is far more rigid than in the Paris codex. These illustrations must be assigned to much the same date as the paraphrase, i.e. the 4th – 5th centuries. Only a few pictures reveal a more vivid representation of nature, e.g. the scenes representing the asp, the fighting echidna (fig. 1.), and the miniature showing the fight of the asp and ichneumon (Herpestes ichneumon) in Fol, 345 of the New York codex

Fig. 3. New York, Morgan Lib. Cod. M, 652. Fol. 345v

(fig. 4). Its style is fairly close to that of an Alexandrine Hellenistic mosaic in Roman art. It may be assumed that the artist of this pictures owed in a clear depth to an earlier codex which—on the other hand—might have been created on the basis of Apollodoros's work. (For the detailed description of the fight see Nic., *Ther.* 190 – 208.)

Comparing the snake and scorpion representations of the Codex Cott. Vitellius C., III. of London with those of the above mentioned manuscripts we may come to the following surprising conclusions: though the snakes of the London codex are rather conventional, nevertheless, their dinamic representation is completely different from the "stick"-like snakes shown in the paraphrases. They can be related only to the echidna picture quoted above as an exception. The scene represents two fighting snakes where the one which comes out on top bites the head of the other one off (Cott. Vit. C. III. fol. 29v: fig. 2).

Among the miniatures of the London codex there is a picture representing the fight between the asp and ichneumon (Fo. 27v: fig. 5). The illuminator did not now the Alexandrine Hellenistic archetype and instead of an ichneumon ha paints a dog which, however, seems an explicable misunderstanding. Further-

more, it is noteworthy that already in the Pseudo-Apuleius codex of Leyden deriving from the 7th century the ichneumon looks very much like a dog, though the inscription clearly identifies it as an ichneumon.

The representation of the horned viper (Cerastes cerastes = C. cornutus) in the London codex (fol. 33^{v}: fig. 8) is a characteristic example of the fact that the copyist greatly deviated from Late classical archetypes (Vienna, Nat. bibl. Cod. med. gr. 1. fol. 402^{r}: fig. 6) and—though often conventional—he attempts at following the more dinamic, and artistic type of Hellenistic origin (Cf. Paris, Bibl. Nat. Cod. suppl. gr. 247. Fol. 10^{r}: fig. 7). Similarly, the water snake (chersydros) on fol. 14^{v} in the Paris *Theriaca* (fig. 9) can be

Fig. 4. Leiden, Univ. Lid. Cod. Voss. lat. Q. 9. Fol. 27^{v}

related rather to the representations in the London codex (cf. fol. 47^{r}: fig. 10, fol. 47^{r}:fig. 11) than to the pictures of the paraphrases. The same is true for the representations of the scorpions. In the paraphrases the scorpions are of a relatively small size as compared to the script of the text (cf. Vienna, Nat. Bibl. Cod. med. gr. 1. fol. 420^{v} fig. 12), while the scorpions of the Paris codex are relatively larger, the joints of their "tails" can be clearly distinguished. (cf. fol. 25^{r}: fig. 13). The scorpions of the London codex adher closely to these latter type although they are clumsier and less realistic (cf. fol. 81^{r} fig. 14).

The above discussed short analysis leads us to the conclusion that there is a conspicuous connection between the illustrations of toxical animals in the Ps. Apuleius codex of London and the miniatures of Nicander's *Theriaca*. These connections, however, are not the results of a direct influence, but refer to the presence of a common archetype. It is obvious that from the oldest Hellenistic archetype onwards to the 11th century, the date of origin of the London codex, the original representations gradually degenerated in the hands of the numerous copyists (a characteristic example is the scene representing the fight of the asp and ichneumon discussed above.) For this very reason it seems difficult to recognize the original classical archetypes, which unfor-

Fig. 5. London, Brit. Mus. Cod. Cotton Vitellius C., III. Fol. 27v

tunately have not come down to us in their original form. Nevertheless, the pictures of the above discussed manuscript go back undoubtedly to a relatively old type, which is a remarkable phenomenon from the point of view of the development of pharmaco-zoological illustration, pharmacology and especially the history of toxicology.

Fig. 6. Vienne, Nat. Bibl. Cod. med. gr. 1. Fol. 402r

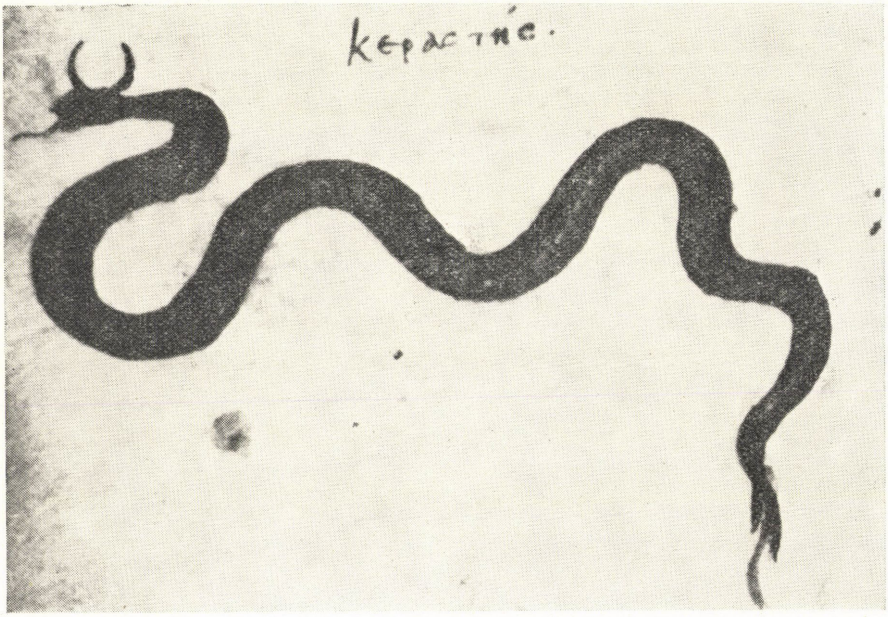


Fig. 7. Paris, Bibl. Nat. Cod. suppl. gr. 247. Fol. 10v

Fig. 8. London, Brit. Mus. Cod. Cotton Vitellius C., III. Fol. 33v

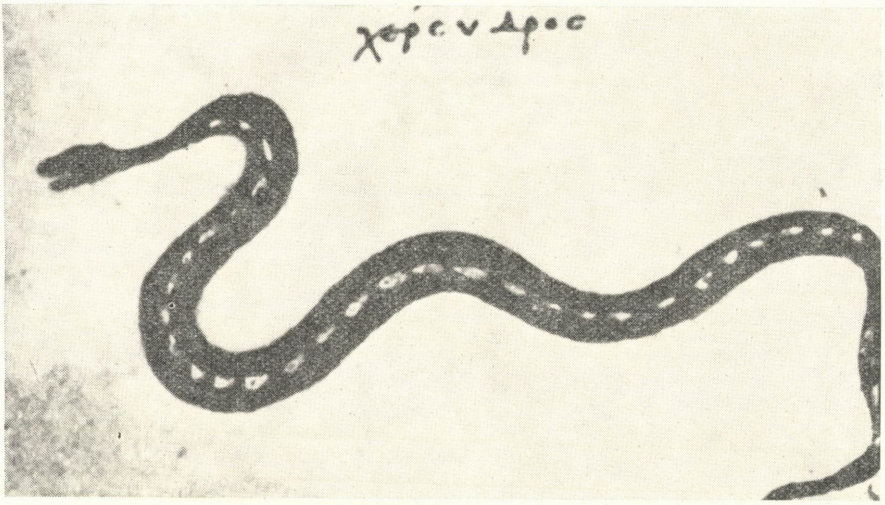


Fig. 9. Paris, Bibl. Nat. Cod. suppl. gr. 247. Fol. 14v

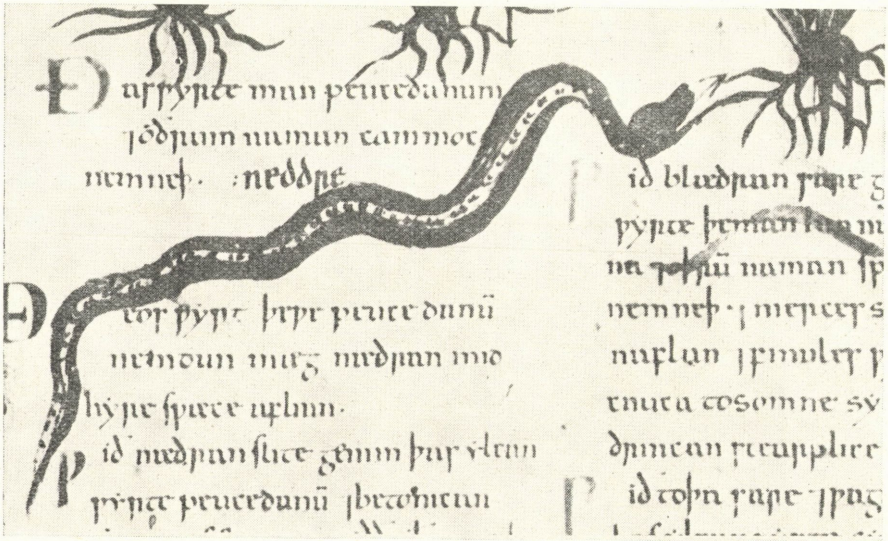


Fig. 10. London, Brit. Mus. Cod. Cotton Vitellius C., III. Fol. 47r

Fig. 11. London, Brit. Mus. Cod. Cotton Vitellius C., III. Fol. 47v

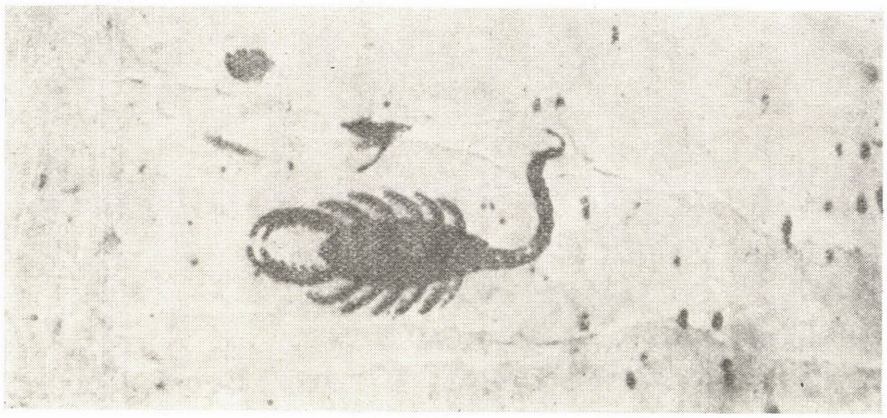


Fig. 12. Vienne, Nat. Bibl. Cod. med. gr. 1. Fol. 420v

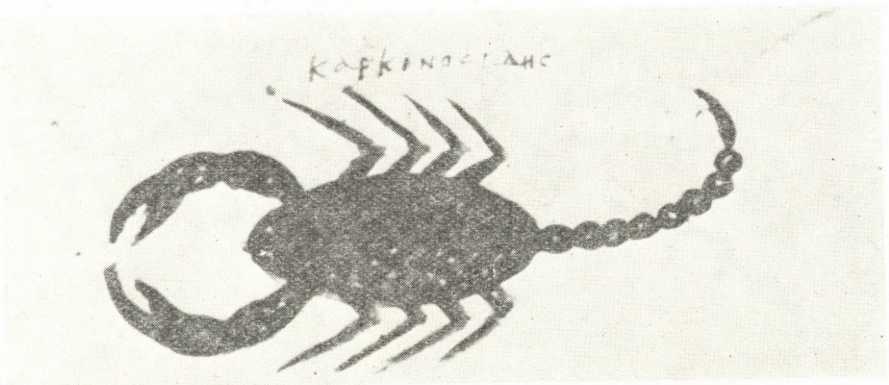


Fig. 13. Paris, Bibl. Nat. Cod. suppl. gr. 247. Fol. 25r

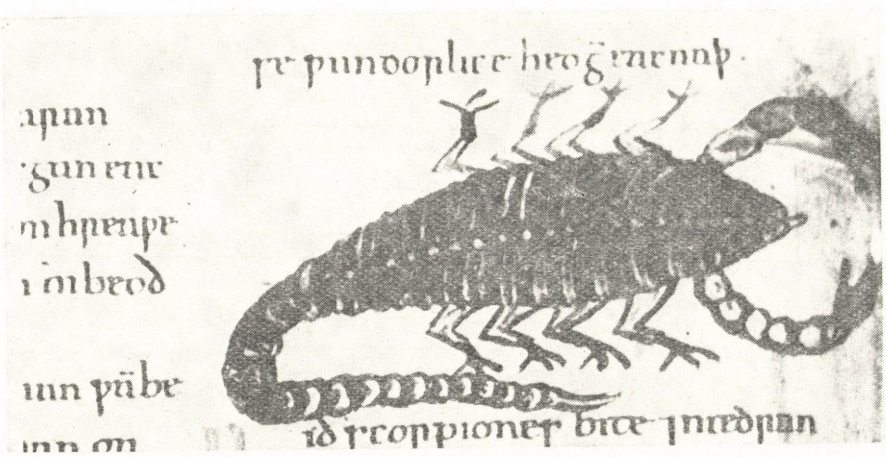


Fig. 14. London, Brit. Mus. Cod. Cotton Vitellius C., III. Fol. 81r

THE CONTACTS OF THE TWO DEES AND SIR PHILIP SYDNEY WITH HUNGARIAN PHYSICIANS

by EMIL SCHULTHEISZ and LAJOS TARDY

Contacts between Hungary and Britain, although their intensity changing, have nevertheless been continuous over the long centuries of the history of medicine in Hungary, up to the present day. Their complete survey would require a whole monograph and can only be a task for future research. In this brief study we wish to call attention to a short but significant period of these contacts.

The protagonists of our study are John and Arthur Dee, Sir Philip Sidney and János Bánfihunyadi; from the four only the second was a real physician, the others came to be recorded in the history of Hungarian medicine on account of being vessed in alchemy or else by their scientific contacts with Hungarian physicians and natural scientists.

The second half of the 16th and the first half of the 17th century was the advent of alchemy, but this was already an alchemy which was able to step over its own insignificant shadow, and was inspired apart from wanton gold-making also by the desire to defeat all sorts of ailments afflicting mankind. At the same time—and this was characteristic of the age—the two altogether opposite driving forces lived together in peace in the mind of scholars.

Born in 1527, John Dee[1] was a well-known mathematician, astronomer, astrologier and mainly alchemist. He received a first-class education and excelled with his talents already at a very early age. In 1547 he became one of the first professors of Trinity College, founded by King Henry VIII. However, his smoothly starting career was for a time interrupted, since he was imprisoned under the suspicion of treason during the reign of Mary Stuart. Cleared from the suspicion, John Dee regained his liberty and was allowed to teach again, then he left England. His lectures at the universities of Louvain, Brussels and Paris, as well as at the college of Rheims earned him a European fame. While in France, he got acquainted with the famous physician and magician of the age, Michel Nostradamus, author of prophecies ranging over three centuries.[2] Having returned to England he became the astronomer of Queen Elizabeth I; he was requested by Lord Dudley to appoint a favourable day

[1] For his biographical records see the *Dictionary of National Biography*. Oxford, Vol. V., pp. 721–729.

[2] Deacon, R.: *John Dee—Scientist, Geographer, Astrologer and Secret Agent to Elizabeth I.* London, 1968.

for the coronation.[3] From this time on John Dee was continously in the good graces of Queen Elizabeth I; she paid several visits to him in his home in Mortlake in order to admire his library and the instruments he used for experiments. On ground of his good connections in the court Dee was sent to study "hierogliphy" abroad. He stayed in Antwerp in 1562 where he studied Joannes Tritemius's "Steganographia", regarded at that time as the most outstanding work in the science of cryptography. Dee also copied it, and on the basis of this book he later wrote his own work under the title "Monas Hieroglyphica".[4] It was here that he got first in contact with Hungary. It turns out from a letter he wrote to Sir William Cecil that he was being able to get on with his work well because a Hungarian gentleman, who at the time stayed also in Antwerp, had undertaken to copy half of the book in order to help him.[5] However, neither his letters nor his diary reveal the name of this gentleman with whose help he worked in the tavern "The Golden Angel."

In Spring 1563 he visited Conrad Gesner in Zürich and then took part in the coronation to Hungarian King the later Emperor Maximilian in the town of Pozsony, the Hungarian capital, on 8 September 1563. Pozsony was a frequented meeting place of Central European natural scientists for more than two centuries,[6] in 1537 for instance the town was visited by Paracelsus. But the physicians and alchemists of Pozsony too, made important contributions to the literature, as did the two Ruhlands. The elder one, Márton Ruhland, alludes to Paracelsus already in the title of his work "Lexicon Alchemiae", and he includes also those hermetic sciences which, not much earlier, John Dee treated in his "Monas Hieroglyphica". István Weszprémi who deserves being regarded as the classic of Hungarian medical history mentions that Dee handed over his work personally to the sovereign whom he mentions it on several occasions.[7]

[3] Róna, É.: Magyar vonatkozások a XVI–XVII. századi angol irodalomban. (Hungarian References in the 16–17th century English Literature.) *Studies in English Philology*. Publication of the Dept. of English, Hungarian Pázmány Péter University of Sciences, Vol. 1. Budapest, 1936, p. 7.

[4] Cfr. Apponyi A.: *Hungarica*. Ungarn betreffende im Auslande gedruckte Bücher und Flugschriften. 3 Bd. München, 1925, p. 237.

[5] *"of this boke one half (with contynual labour and watch, the most part in 10 day) have I copyed oute. And now I stand at the curtesye of a nobleman of Hungary for writing furth the rest; who hath promised leave thereto, after he shall perceyve that I mayremayne by him longer (with the leave of my Prince) to pleasure him also with such pointes of science as at my handes he requireth." Philobiblon Society*. Bibliographical and Historical Miscellanies. Vol. 1., 5–16 pp. Cfr. Róna É. op. cit. p. 8.

[6] *"...Huiusce rei causas, Ego, proxime iam praeterito Septembri, in Hungarici vestri Regni Posonio, aliquam trahens moram, luculentissimas, easque variis exploratas modis, oculatus cognovi Testis."* Josten, C. H.: A Translation of John Dee's "Monas Hieroglyphica" etc. *Ambix*, Vol. XII, 1964, Nos. 2–3, p. 114.—Pozsony (Pressburg) is not inaptly referred to as the centre of Hungarian alchemists for centuries by L. Szathmáry one of the author dealing with the history of alchemy in Hungary in his work *Magyar alkémisták* (Hungarian Alchemists), Budapest, 1928.

[7] Weszprémi I.: *Succincta Medicorum Hungariae et Transilvaniae Biographia*. Centuria prima (New edition). Budapest, 1960. p. 186.

Dee's work is interesting also from the point of view of medical history. The careful study of the work has led us to the conclusion that it points beyond the treatment of cryptography, cabbalism and symbolics, and it contains the basic tenets of his work as an alchemis. The detailed treatment of elementary qualities, the Calidus and the Humidus leads already over to the theory of fluid-circulation. There is no doubt that in the cosmic symbolism of his work, Dee appears as a classic neo-Platonist, who in this respect reminds us of Giovanni Pico Della Mirandola.[8] It would be wrong to judge John Dee exclusively on

Title Page of John Dee's main work

[8] Schultheisz, E.: Giovanni Pico della Mirandolas Bedeutung für die Medizin. *L'opera e il pensiero di Giovanni Pico della Mirandola nella storia dell'umanesimo.* Vol. II. Firenze, 1965. pp. 405–412.

the ground of "Monas Hieroglyphica" and of his activity as an alchemist. Dampier, the famous science-historian points out how closely magic and science could live together in such an excellent scholar as John Dee, who for all his spiritualism and alchemist mysticism was an outstanding scientist and mathematician and also the earliest follower and most consistent representative of the Copernican systems in England.[9]

It is not known who much time Dee spent in Hungary. However, it seems certain that his visit was quite long. He returned to England, but in 1583, after some interesting antecedents, he again appeared in Hungary this time with his son Arthur, later a famous physician who at that time was but five years old. This second journey—about which we know considerably more than about the first—is connected with a colourful but somewhat adventurous figure of Hungarian history: Albert Laszky.

Albert Laszky was the son of the Polish-born Jeromos Laszky, voivode of Transylvania and seigneur of Késmárk (Kežmarok, now in Czechoslovakia). Albert Laszky inherited a huge fortune after his father's death and when he married György Serédy's widow he rose among the ranks of the wealthiest Hungarian noblemen. However, he piled failure upon failure both in his political activity and in his private life. When István Báthory, Prince of Transylvania was elected King of Poland, Laszky organized resistance. Upon this the king occupied Albert Laszky's castle in Poland in no more than five days and Laszky was compelled to flee to his estates in Hungary. Here he got into serious financial troubles owing to his extravagance; he was forced to mortgage the castle of Késmárk, after which, as to István Weszprémi writes—"*he left for England, for London*[10] *to which many years earlier his uncle, the bishop János Laszky had also emigrated. In London he joined hands with two alchemists, Edward Kelley and John Dee. They both promised Laszky that he would get hold in the near future of the whole of Poland, Moldavia and Wallachia and would be richer than King Croesus had been. Upon this Laszky invited Kelley and Dee to Hungary, who were pleased to accept the invitation, especially Dee who had practised his craft of alchemy in Hungary already earlier in 1563 for a long time and to the great admiration of a number of people...*"[11].

[9] Dampier, W. C.: *A History of Science.* Cambridge, 1966. pp. 112, 144.

[10] The outstanding Hungarian guest was most heartily welcomed in the court of Queen Elisabeth. He excelled with his eminent education. At the University of Oxford he entered into a controversy with Giordano Bruno the great Italian philosopher. Cfr. Szathmáry, L. op. cit. pp. 362–363.

[11] "*...Londinum ergo in Angliam deproperat, quo iam multis antea annis patruus, Johannes Laszky, Praepositus Gnaesnensis, et postea Episcopus Weszprimiensis, religiosam, fundandae Ecclesiae Presbyterianae caussa, susceperat peregrinationem. Iniit ibidem societatem duorum virorum chrysopoeorum, Edwardi Kelley, et Iohannis Dee anno 1583. Adepti hi duumviri Laszkyo promittunt, eundem propediem integra Polonia, Moldauia, Valachia etc. potiturum, immo ipso Croeso ditiorem futurum: ille hos in Patriam inuitat; lubentes aduolant. Johannes Dee potissimum, qui ante iam anno 1563 in Hungaria artem transmutandi metalla, non sine multorum admiratione diu multumque agitauit, immo Maximiliano quoque Imp. et Reg. Hungariae Monadem suam, hieroglyphice, mathematice, magice, cabbalistice, anagogice explica-*

The laboratory was opened in 1584 in Albert Laszky's castle at Szepeshely (North Hungary, today in Czechoslovakia), however the prolonged experiments did not yield the expected results, so the two Englishmen hurried on to Prague, to the court of Emperor Rudolf, King of Hungary.

Data about the years that followed are rather contradictory. Edward Kelley tinged gold from mercury before the Emperor's eyes, which aroused general astonishment. He was given nobility by the Emperor at once and Kelley gave in to the entreaty to stay. When, however, the King asked him for the formula of the philosophers stone he, of course, was unable to produce it to him and was put into prison. According to certain Hungarian sources he tried to escape but the rope did not hold; Kelley suffered serious injuries and died within a few days. According to others he got mixed up in a duel and was mortally wounded. The truth is that he returned to England and continued his adventurous life there.[12]

A Hungarian alchemist, Ferenc Lukasovszky[13] saved for posterity the recipe what Kelley had used. The recipe—as claimed by Kelley—was found in the tomb of bishop St. Dunstan and came into the hands of an innkeeper by theft. It was there that Kelley caught a glance of the text which was written in Welsh, and acquired it for an insignificant su. According to Lukasovszky the bishop's writing was forwarded to King Rudolf by Kelley and it was copied in the court at Prague by a transcriber on 17 July 1604.[14]

John Dee's fate was different. After he had left Prague for the court of the Polish king István Báthory and performed there experiments of transmutation successfully[15] the fame of his activity spread all over Eastern Europe and he was invited in 1586 by Tsar Fiodor Ivanovitsh, that is by Boris Godunov who ruled instead of him, to carry on his experiments in Russia[16] for the huge annual salary of 2000 pounds, since alchemy had been unknown in Russia up to that time. However, Dee, after his six-year stay abroad, mainly in Hungary, returned to England in 1589.[17]

tam, Antverpiae anno 1564 impressam, inscripsit et Posonii obtulit. Anno 1584 in Castello Laszkyano Collegium alchemisticum asperitur, in aurea hac arte Laszkyus fidelissime instituitur, regnum minerale vario igne diu satis torquetur, et tandem miser nouissime omnium turpiter, vt fieri adsolet, delutidur. Haec M. Belius in Prodrom. Hungar. pag. 82, 92, 93 item in Not. Hung. Tom. I. Moreri in Diction in voce Dee Georgius Mathhiae in Consp. Histor. Medic. chronol. pag. 614 et Miscellan. Groning. Tom. III. fasc. I. et alibi." Weszprémi, I. op. cit. pp. 186–187.

[12] *The Dictionary of National Biography.* Oxford, vol. X., pp. 1230–1232.

[13] Cfr. Ms. Quart. Germ. 239 Budapest, Széchényi National Library; furthermore Szinnyei J.: *Magyar írók élete és munkái* (Life and Work of Hungarian Writers). Vol. 8. Budapest, 1902. Column 128.

[14] Szatmáry L. op. cit. pp. 205–212.

[15] Hubicki, Wl.: Chemie und Alchemie des 16. Jahrhunderts in Polen. *Annales Universitatis Mariae Curie-Sklodowska.* Vol. X. 7, Lublin, 1955, pp. 66–67.

[16] Figurovski, N. A.: The Alchemist and Physician Arthur Dee. *Ambix,* Vol. XIII., 1965, No. 1, February, pp. 40–41.

[17] In the above mentioned work of his, R. Deacon points out that John Dee used to send cryptogram reports on these journeys to Queen Elisabeth. He liked to

By that time his son Arthur Dee was 10 years old. As Figurovski writes relying on British sources, Arthur, though still a child, got an inside view of the world of experiments.[18] As is to be read in the work of Wilhelm D. Richter,[19] Dee the elder provided excellent opportunities for his son to study. He had been a student at Westminster school as early as in 1592; later he continued his studies at the medical schools of Oxford and Cambridge. He is supposed to have earned his medical diploma in Manchester; at any rate he is mentioned on a certificate of merit of the university of Basle as doctor medicinae.[20]

He started his medical practice in London and continued there until 1621. Though his father John Dee had brought upon himself the grudge of King James I. which disfavour accompanied him until the last days of his life, his son enjoyed the full confidence of the same king, so much so that he rose among the ranks of the courtphysicians.

In 1621 two envoys of Tsar Mihail Fiodorovitsh, Yurij Rodionov and Andrey Kerkerlin, appeared at the English court and asked the king to send along an experienced and excellent physician to Moscow. The choice fell upon Arthur Dee, who appeared on a visit of introduction before the Tsar on 8 September 1621.

The activity of Arthur Dee—known in Russia as Artemii Ivanovich Dii—in the Tsar's court is outside the scope of our paper, since N. A. Figurovski treated this topic in his work in detail. It is, however, worth while to dwell a little longer on Dee's work released in Paris in 1631 under the title "Fasciculus Chemicus". Regarding this work we are of the opinion that the strictly alchemist part of the text can be traced back in the last analysis to the "Corpus Alchimisticum", which is a collection of Egyptian and ancient Greek alchemist manuscripts compiled similarly to the "Corpus Hyppocraticum". It originates from the 7th – 8th centuries. Several variants of the same collection are known from the 9th century onwards. The oldest manuscript-collection was written by a Byzantine alchemist, named Theodoros. The manuscript came into the hands of Cardinal Bessarion who donated it to the Venetian Republic in 1463. Today it can be found in the San Marco Library in Venice. A 15th century copy of this Greek Marcianus Codex is kept at the library of Kassel. The manuscript has a fascinating history: in April 1567 John Dee bought the so-called Oxford alchemist manuscripts from Jean Baptist Hardencourt, as is testified by the note made on the first page of the codex which reads: "*Johannes Dee*

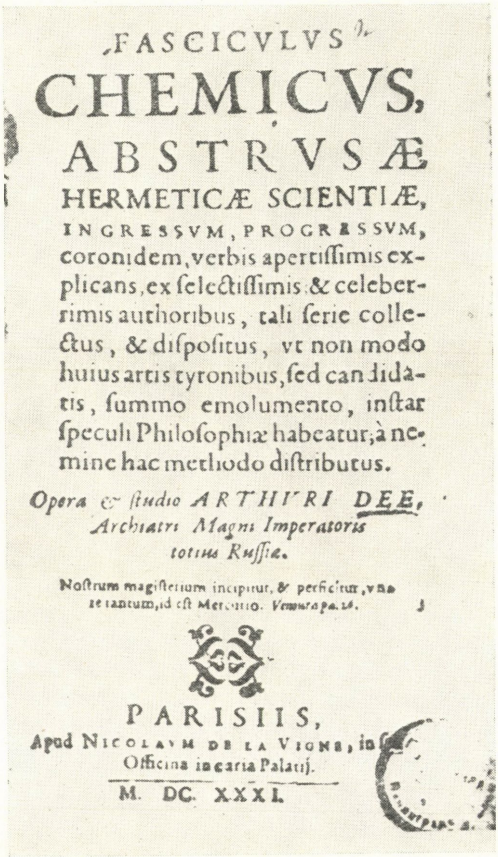
interfere in the machinations of diplomacy which is also proved by his strictly confidential letter to Don Guillén San Clemente, ambassador of Philip II and afterwards Philip III Spanish kings in Prague, written in Prague on 28. September 1584. *Correspondencia inédita de Don Guillén de San Clemente.* Zaragoza, 1892, pp. 215 – 218.

[18] Figurovski, N. A. op. cit. p. 42.

[19] *Istorya meditsiny v Rossii.* Vol. II. Moscow, 1820, pp. 24 – 34.

[20] For the biography of Arthur Dee see the *Dictionary of National Biography*, Oxford, Vol. V., pp. 719 – 720. and Figurovski, N. A. op. cit. p. 42.

hunc librum Mortlaci in aedibus meis emi a Jo. Baptista Hardencurti pro sexaginta Angelotis aureis qui valent monetae nostrae Anglicae libras triginta sterlingenses, 4. April 1567." This copy which includes the most important parts of the "Corpus Alchimisticum" was later donated by Dee to Landgrave Maurice of Hessen an ardent supporter of alchemy. Nearly all the pages of the manuscript display detailed marginal notes by John Dee who must have studied the manuscript intensively.[21]


FASCICVLVS
CHEMICVS,
ABSTRVSÆ
HERMETICÆ SCIENTIÆ,
INGRESSVM, PROGRESSVM,
coronidem, verbis apertiſſimis explicans, ex ſelectiſſimis & celeberrimis authoribus, tali ſerie collectus, & diſpoſitus, vt non modo huius artis tyronibus, ſed candidatis, ſummo emolumento, inſtar ſpeculi Philoſophiæ habeatur, à nemine hac methodo diſtributus.
Opera & ſtudio ARTHURI DEE,
Archiatri Magni Imperatoris totius Ruſſiæ.
Noſtrum magiſterium incipitur, & perficitur, vna tantum, id eſt Mercurio. *Venus tab.*
PARISIIS,
Apud NICOLAVM DE LA VIGNE, in
Officina in carta Palatij.
M. DC. XXXI.

Title Page of Arthur Dee's main work

The "Fasciculus Chemicus" is actually an excerpt from the "Corpus Alchimisticum" and thus one of the most important secondary sources of the history of alchemy. It is hard to determine the exact place of the "Fasciculus Chemicus" in the history of science since in the period of its birth basic change came about in the history of alchemy. Many of the alchemists abandoned the retort and the melting-pot and turned fully to hermetic philosophy. This was the time when the chemist detached himself from the Hermetist. Chemistry became a natural science. Hermetism, however, lost its empirical ground and even its logical basis, and indulged in speculation, pouring forth shallow allegories. Let us refer here to C. Gustav Jung who plains this trend of alchemy in several of his studies.[22] According to these, the imagined property of matter is not necessarily its inherent quality but "*derives from the soul of the alchemist*". All that is unknown or empty is filled with psychological projection. The properties which the alchemist supposes to see or recognize in matter are his own—mostly subcons-

[1] Goldschmidt, G.: *Zur Sichtung und Erforschung der alchemistischen Handschriften.* Basel, 1938. Cfr. Schultheisz, E.—Tardy L.: A két Dee és Magyarország (The two Dees and Hungary). *Orvosi Hetilap,* 1967, p. 1566.

cious—projections. Even if Jung's views are in certain respects disputable, they help us to a psychological understanding of the late period of alchemy.

Apart from empiric chemical statements Arthur Dee's work abounds also in mystic pseudo-philosophycal theories. However, one must not by any means conclude from the above facts that also as a doctor Arthur Dee was nothing but a phantast. The history of science proves that even excellent clinicians like Van Helmont, Stahl or the noted obstetrician from Vienna, Crato von Craftheim, were inclined towards irrational thinking. We also know of the latter that he was a practising alchemist. There are quite a number of similar examples.

Dee completed his book which he had begun to write still in England later in Moscow. Since however, there was no Latin printing in Russia at that time, the book was published in Paris. Figurovsky refers to the fact that in writing his "Fasciculus Chemicus" Arthur Dee made use of books and material collected while still in England. We hold that the Codex Casselianus, which once had belonged to his father, served as basis to this work. This conclusion may be drawn also from the divisioning of the book which shows a striking resemblance to that of the "corpus Alchimisticum". It is a matter of course that the author should have used—and he himself refers to the fact in the title—the works of his famous predecessors, from Aristotle through Geber and Arnaldus Villanovanus up to Riolan. Dee's book was translated into English still in his lifetime and was published in London in 1650. This work exerted an influence also on Hungarian alchemists; we intend to treat this subject in a separate paper.[23]

After his return to England Arthur Dee acted as court physician to King Charles I. When the king was executed in 1649 Dr. Arthur Dee thought it better to move to the countryside. He continued his private practice in Norwich but his Father's passion for alchemy flared up in him: he too started to seek for the philosophers' stone...[24] And just like John Dee had been supported by a Hungarian in his scientific work, the companion of Arthur Dee who could speek Hungarian[25] was a Hungarian, too, Joannes Banfi Huniades —János Bánfihunyadi—a noted chemist and alchemist living in England.

[22] Cfr. Jung, C. G.: *Psychologie und Alchemie.* Zürich, 1940; furthermore: *Mysterium Coniunctionis Untersuchung über die Trennung und Zusammensetzung der seelischen Gegensätze in der Alchemie.* Zürich, 1955.

[23] Cfr. Schultheisz E.—Tardy L. op. cit. pp. 1567.

[24] "...*Nach dieser Zeit kam er wieder nach England und ward Karls I. Leibarzt, nach dessen Tode er sich zu dem Johannes Hunniades, welcher auch Hans Hunger genannt wurde, gesellte, und mit ihm Gold machen wollte, eine Thorheit, welche ihm noch aus der Schule seines Vaters anklebte.*" Adelung, J. Chr.: *Fortsetzung und Ergänzungen zu Christian Gottlieb Jöchers Allg. Gelehrten Lexicon.* Bd. II. Leipzig, 1787, column 643.

[25] "...*One of his papers in Moscow tells us thet he 'owned German, French, Hungarian, English and Polish'.*" Figurovski, N. A. op. cit. p. 42.

This fact is know from the correspondence between Sir Thomas Browne and Elias Ashmole. Ashmole, who showed an inclination towards occulat sciences inquired about Arthur Dee from Sir Thomas Browne. In a letter written in March 1674 Browne mentions that Arthur Dee signed a contract with a man named Huniades in London two years before his death. This Huniades had long since been living in London and when he grew old he wanted to return to Hungary in the company of Arthur Dee.[26]

The experiments conducted jointly by Dee and Bánfihunyadi proved to be over expensive according to some sources and resulted in diminishing Dee's wealth considerably. The other version according to which the two scientists were in close cooperation right up to Bánfihunyadi's death can be regarded as more authentic.

In our present knowledge John Dee's visits to Hungary did not make any significant influence on this country's scientific life, rather in contrast to Arthur Dee's "Fasciculus Chemicus", whose influence on Hungarian alchemy is ponderable. But only if we know about John Dee's Hungarian visits can we comprehend why Banfi Huniades, a man of his son's age, went to live in London and why Arthur Dee longed to visit Hungary where he had spent his childhood. And it is also obvious that one of the sources of the Browne family's snarked interest in Hungary of Sir Thomas and Sir Edward, both physicians—must be sought here.

However, we have to touch upon another source of this interest as well, principally on the ground of an excellent paper by István Gál.[27]

*

After having dealt briefly with the activity in Hungary of the British alchemist John Dee and before going on to the life and activity in England of the Hungarian chemist and alchemist Banfi Huniades, we have to mention a Hungarian—English contact from the short period in-between. The central figure of this contact is Sir Philip Sidney who, though having a universal humanist interest, cannot be regarded as a natural scientist. Still, his appearance, in Hungary[28] and his friendly relations established here make it indispensable to write about him as well.[29]

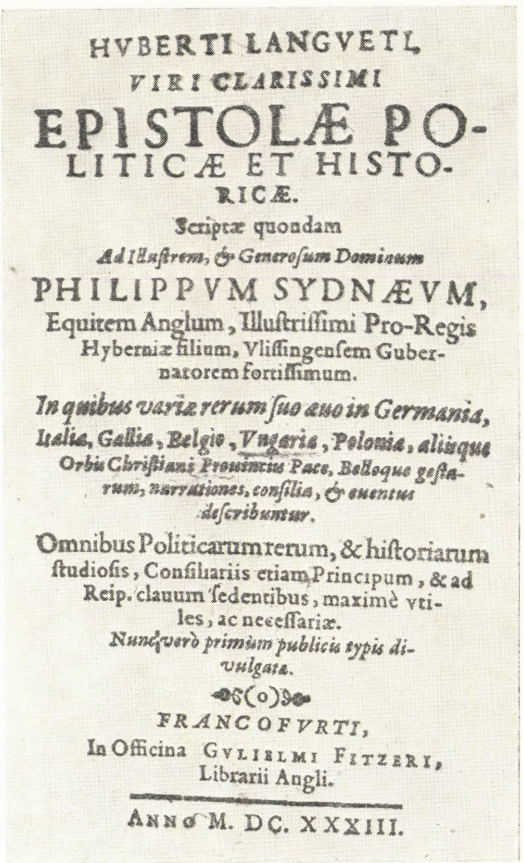
[26] Sherwood Taylor, F.—Josten, C. H.: Johannes Banfi Hunyades 1576—1650. *Ambix*. Vol. 5, 1953, Nos 1—2, p. 48. Cfr. Róna É. op. cit. pp. 38—39.

[27] Gál, I.: Sir Philip Sidney's Guidebook to Hungary. *Hungarian Studies in English IV*. Debrecen, 1969, pp. 53—64.

[28] "...*gieng 1572 auf Reisen, und war zu Paris, als die Blut-Hochzeit allda gehalten wurde. Er gieng darauf nach Deutschland, Ungarn und Italien...*" Jöcher, Chr. G.: *Allgemeines Gelehrten Lexicon. IV*. Theil. Leipzig, 1751, column 571.

[29] His letters from Hungarian scholars were sold at an auction in Germany and are now in the USA. Their publication is to be expected in the near future as Mr. I. Gál kindly informed us.

The life of the great poet and humanist is known all too well, so it is quite unnecessary for us to go into its details. On the other hand, few know the fact that in the course of his journeys—10 years after John Dee's first appearance in Hungary—he too visited what was Hungary's capital at that time and made the acquaintance of outstanding Hungarian scholars, the leaders of the time's intellectual life there.



HVBERTI LANGVETI,
VIRI CLARISSIMI
EPISTOLÆ POLITICÆ ET HISTORICÆ.
Scriptæ quondam
Ad Illustrem, & Generosum Dominum
PHILIPPVM SYDNÆVM,
Equitem Anglum, Illustrissimi Pro-Regis Hyberniæ filium, Vlissingensem Gubernatorem fortissimum.
In quibus variæ rerum suo ævo in Germania, Italia, Gallia, Belgio, Vngaria, Polonia, aliisque Orbis Christiani Provinciis Pace, Belloque gestarum, narrationes, consilia, & eventus describuntur.
Omnibus Politicarum rerum, & historiarum studiosis, Consiliariis etiam Principum, & ad Reip. clauum sedentibus, maximè vtiles, ac necessariæ.
Nunc verò primùm publicis typis divulgatæ.
FRANCOFVRTI,
In Officina GVLIELMI FITZERI, Librarii Angli.
ANNO M. DC. XXXIII.

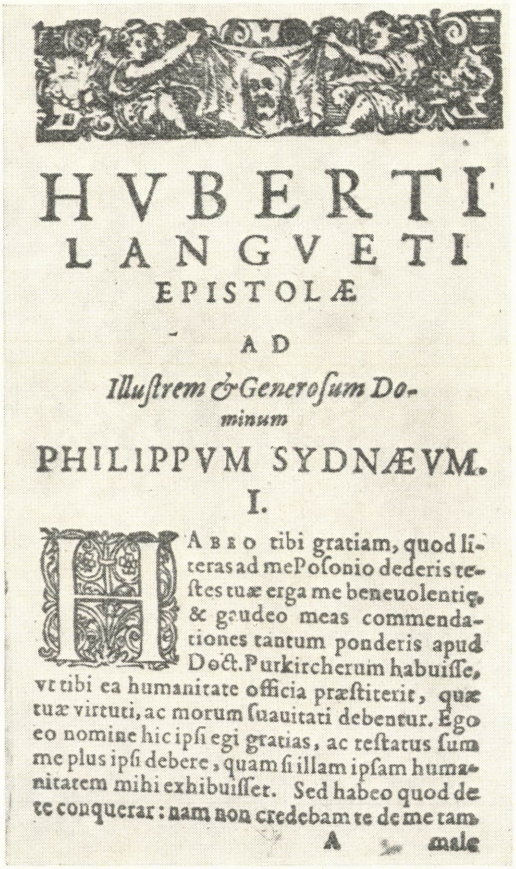
Languet's letter to Sir Philipp Sidney in which he mentions Georgius Purkircher Hungarian physician

Having witnessed in Paris the Massacre of St. Bartholomew, Sir Philip Sidney continued his studies on the Continent. He made the acquaintance of Hubert Languet,[30] enlightened political writer of the age in Frankfurt am Main. "They were together at Frankfurt for three months or more. At that time Languet was the representative of the Elector of Saxony. In the spring of 1573 he was ordered to proceed to the Emperor's court in Vienna."[31] Sir Philip Sidney followed the outstanding French hum anist to Vienna and they both became close friends of the reputed Hungarian physician and historian, János Zsámboky, by his humanist name Joanes Sambucus,[32] and of his humanist circle.[33] Meeting at Sambucus's house in Singer Strasse were not only the most important Hungarian humanists of the age:

[30] Jöcher, Chr. G. op. cit. II. Theil, 2268 column; *Fortsetzung und Ergänzungen zu Chr. G. Jöchers Allg. Gelehrten Lexikon.* Bd. III. Hildesheim, 1961, column 1274.
[31] Róna, É.: Sir Philip Sidney and Hungary. *Annales Universitatis Scientiarum Budapestiensis de Rolando Eötvös nominatae.* Sectio Philologica, 1959.
[32] Gerstinger, H.: *Die Briefe des Johannes Sambucus.* Wien, 1968, pp. 152—153.
[33] Bálint–Nagy I.: Purkircher György (1530–1578) pozsonyi orvos élete (The Life of Gy. Purkircher Physician in Pressbourg (1530–1578). *Orvosi Hetilap* 1930, p. 556.

Verancsics, Listhy, Dudits, Istvánffy and Purkircher, but also the representatives of the international scientific world: Crato, Clusius, Busbecq, Blotius, Lipsius and others. It was this humanist group, maintaining international contacts, that the young Sidney entered on the side of Languet. Through the persons of Sambucus and his Hungarian friends Sir Philip Sidney became naturally interested in Hungary. When Carolus Clusius, the greatest botanist of his age, director of the botanic gardens of the Emperor in Vienna, who belonged to Sambucus's friends,[34] left for Hungary, Sir Philip Sidney accompanied him. *"John Buxton believes that Languet had known Sidney's intention to accompany Carolus Clusius to Hungary, imagining he would not stay longer there than three days, "but he stayed at least a month."*[35]

The correspondence of Languet and Sidney was published in 1633 in book form too;[36] in the first letter Languet thanks for the letter Sidney wrote from Pozsony and expresses his pleasure that at his recommendation Sidney was so warmly received by Georgius Purkircher, doctor medicinae. Dated 22 September 1573 this letter proves that these relations were rather extensive, and also las-



HVBERTI
LANGVETI
EPISTOLÆ
AD
Illustrem & Generosum Dominum
PHILIPPVM SYDNÆVM.
I.

HAbeo tibi gratiam, quod literas ad me Posonio dederis testes tuæ erga me beneuolentiæ, & gaudeo meas commendationes tantum ponderis apud Doct. Purkircherum habuisse, vt tibi ea humanitate officia præstiterit, quæ tuæ virtuti, ac morum suauitati debentur. Ego eo nomine hic ipsi egi gratias, ac testatus sum me plus ipsi debere, quam si illam ipsam humanitatem mihi exhibuisset. Sed habeo quod de te conquerar: nam non credebam te de me tam

A male

Languet's letter to Sir Philipp Sidney in which he mentions Georgius Purkircher Hungarian physician

[34] Gerstinger, H. op. cit. pp. 16, 22, 150, 161, 162, 206, 231, 232, 279, 280.

[35] Buxton, J.: *Sir Philip Sidney and the English Renaissance.* London, 1954, p. 61.

[36] Huberti Langveti, viri clarissimi epistolae politicae et historicae, scriptae quondam ad illustrem et generosum Dominum Philippum Sydnaeum etc. Francofurti, 1633.

ting;[37] Mona Wilson refers to this when she remarks that a few years later Clusius and Purkircher told Languet that they had been drinking Sidney's health in Austrian wine and hoped shortly to do it in Hungarian in memory of the merry days spent together.[38] Sorrow is expressed in Languet's letter written from Frankfurt on 8 November 1577 in which he reports the death of Georgius Purkircher.[39]

Georgius Purkircher was an outstanding Hungarian physician and botanist of the age; he built the first botanical garden in Pozsony, the town in which he had been born in 1530. He studied in Padova between 1561 and 1563, where he got his medical diploma and from here he went on to Paris. Then dealt with botany in Wittemberg. From 1566 onwards he lived again in his native town and was active as a physician of high repute and a passionate botanist, and became one of the central figures of the Hungarian world of scholarship. There is no doubt that behind the great interest in Hungary of Sir Philip Sidney—which interest we can also find in his poetry[40]—there stood his close ties of friendship with Georgius Purkircher and other personalities belonging to this Hungarian humanist circle.

Eva Róna, the outstanding researcher of English – Hungarian literary relations states that *"Sidney and Dee both often present at court had known each other. Was it before or after Sidney's visit to Hungary that they discussed the country? It is hard to see, though Dee does not fail to speak boastingly of Sidney's many visits to his house at Mortlake."*[41] In the light of this statement, we can be sure that Sir Philip Sidney's interest in Hungary sprang from both Hungarian and English sources.

In Hungary, constantly inflicted by the Turkish wars and isolated from foreign scientific relations, the appearance of Englishmen being in close friend-

[37] "Habeo tibi gratiam, quod literas ad me Posonio dederis testes tuae erga me benevolentie et gaudeo meas commendationes tantum ponderis apus Doct. Purkircherum habuisse, ut tibi ea humanitate officia *praestiterit, quae tuae virtuti, ac morum suavitati debentur"* etc. Ibid. pp. 1–2.

[38] Wilson, M.: *Sir Philip Sidney.* London, 1931, p. 53.

[39] Epistolae Langveti op. cit. p. 226. — It was, however, a false report, in reality he died a year later.

[40] Róna, É.: Sir Philip Sidney op. cit. p. 48.

[41] Ibid. 46 p. — *On the London period of their relation Deacon remarks: "The fact that Dee 'received slautation' from Laski on his arrival in England suggests that Laski had already heard of him. It may have been that he asked the Queen to be introduced to Dee, or that Dee sought an interview. What is abudantly clear is that the Queen was anxious for the two men to meet and that she gave Dee money through the Earl of Leicester for the purpose of entertaining Laski. On 13 May Dee wrote: 'I became acquainted with Albertus Laski in the Erle of Leicester his chamber in the Court of Greenwich. This day was my lease of Devonshire mynes sealed at Sir Leonnell Ducket's howse.' Five days later Dee recorded that Laski came to see him at Mortlake. In June Laski visited Oxford and by order of the Queen was entertained in the most regal fashion with banquets, plays, pageantry and public disputations. From Dee's diary it would seem that Sir Philip Sidney accompanied Laski to Oxford, for immediately after this visit Sidney brought Laski to see again at Mortlake."* Cfr. Deacon, R. op. cit. pp. 70, 91, 176.

ship with Hungarian scientists caused considerable stir. Small wonder it is that János Bánfihunyadi—or as the English called him, Johannes Banfi Hunyades, or also Hans Hungar—felt strongly attracted to England and found his second home in the Island.

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From the 16th century onwards, dealing with chemical substances had become more and more associated with physicians. It was Paracelsus who put it into words when he stated that the true aim of alchemy was not the making of gold but the preparing of medicines. "*In der Alchemie, da finden wir den Grund der Medizin und Alles was not ist... Ich weise euch auch zu nichts anderem in die Alchemie als allein zur Bereitung der Arznei.*"[42] Apart from philosophy and astronomy—which, however, must not be thought of in today's terms—the third pillar on which Paracelsus's therapeutics is based is alchemy. With its help man moulds substances given by nature in a form best suiting his own needs. Thus with Paracelsus alchemy does not mean goldmaking, or any thing of the kind.

Alchemy must not be regarded solely as the predecessor of chemistry, putting aside all that does not expressly concern chemistry as mysticism and superstition; however, it is also wrong to see in alchemist writings nothing but data to the history of ideas, and to neglect all the chemistry treated within it as revealer of secret traditions. All the more so, since in the world of alchemist thinking practical chemistry was inseparably interwined with philosophic and religious ideas. Seen in this light, it is easy to understand that chemists and physicians, bearing importance from the aspect of exact sciences, could be natural scientists and mystics all at the same time.

This duality characterises also the figure of Banfi Huniades.

Though we have no certain knowledge of his having been a doctor of medicine, we can still regard it as highly justified that István Weszprémi mentioned him among the distinguished physicians of Hungary and Transylvania in his above-mentioned collection of biographies—and right in the first volume. A medical historian of later times, Gyula Magyary-Kossa also refers to the fact that Banfi Huniades is mentioned in certain early writings as doctor, though he cannot prove anything for certain either. According to Weszprémi he descended from an ancient Hungarian dynasty, the Banffy family of Hunyad. This supposition, however, is not based on proofs of full value.

Johannes Banfi Huniades's biography and his career in England were described by two excellent British authors[43] in full detail and with great reliability.

[42] Die grosse Wundarznei. 1536. Sudhoff's ed. pp. 10, 363.

[43] Sherwood Taylor, F.—Josten, C. H. op. cit. 44—52 pp.; the same authors op. cit. Vol. 5, Nos 3—4, 1956, p. 115.

We have complemented their findings with some Hungarian data[44] in one of our earlier works, therefore, we do not intend to go into details here.

The study by Sherwood-Taylor and Josten, referred to above, mentions Bánfihunyadi's activities which were important from the aspect of medical history, several times: *"Besides being a professor at Gresham College was interested in or concerned with the technical side of chemistry, manufactures and medicines or materials for such"*.

It is his writings on pharmacochemistry and pharmacology that make Bánfihunyadi's natural scientific work so important for medical science. It is no mere chance that in the manuscript of Jonathan Goddard (1617–1674), treating the *materia medica* (pharmacology in today's terms), we meet a number of Bánfihunyadi's recipes hitherto unknown by the literature.[45]

However interesting these recipes of Bánfihunyadi may be—the manuscript mentions their author once as Dr. Huniades, then again as John Hunyades—it is outside our scope to go into their details. However, we consider it important to mention that the text, or rather the collection of recipes in the manuscript, are so far from being of an alchemist character, that they are not even reminiscent of the "Corpus Alchemisticum"—which is the basis of all the alchemist writings dealing with gold-making and searching for the phylosophers' stone. The ingredients of the prescriptions, the chemical techniques applied, the methods of preparation all doubtlessly prove that Banfihunyadi must have been a true chemist.

It is interesting to notice that as early as in 1641 he already made use of the alcohol-thermometer in certain distilling procedures. The majority of drugs and mineral substances mentioned in the recipes had been used as medicines in the 17th century what is new here is the method of their preparation. All the recipes described in the manuscript were meant for therapeutic use and no trace can be found in them of any "classical" alchemist objective, as the formula of the *lapis philosophorum* or gold-making. If the work has any connection with alchemy then it is the use of alchemist symbols. By this we do not intend to say that Bánfihunyadi was no alchemist for he was one. It is, however, obvious that his work as a chemist-pharmacologist proceeded in the direction of natural science, it was of an experimental character and clearly distinguishable from alchemy.

At the present state of our knowledge, we have a great number of *indirect* data on his having been an alchemist, whereas we have *direct proof* of his chemical activities.

An excellent Hungarian source[46] completes our picture of Bánfihunyadi with interesting biographical data. The Hungarian scholar who settled in

[44] Schultheisz E. – Tardy L.: Bánfihunyadi János az újabb adatok tükrében (J. Bánfihunyadi in the Light of Newer Data). *Orvosi Hetilap* 1969, pp. 2349–2352.
[45] Ambix, Vol. 5, p. 50.
[46] Keserü B. (ed.): *Adattár XVII. századi szellemi mozgalmaink történetéhez* (Collected Data to the History of Intellectual Trends in the 17th Century). Vol. 2. Budapest—Szeged, 1966, pp. 294–296, 369.

London maintained close connections with his native country, he spoke in his mother-tongue with Hungarians living abroad and with those who were about to travel home, also his letters written home are Hungarian. He supported Hungarian students studying in England both financially and morally.

A much more significant fact found is that when György Rákóczi I, Prince of Transylvania, made an attempt to establish an academy in the capital of his country, Kolozsvár, he intended to appoint Bánfihunyadi to its leader as a man with excellent knowledge of the English academic organization and life. Our source recalls this circumstance as follows: "...*György Rákóczi called János Bánfihunyadi home in 1633 in order to organize a body of professors here* (in Kolozsvár), *which would consist only of Hungarians. There cannot be any doubt about the authen ticity of this letter of invitation since it was seen by Adam Frank himself in London.*"[47]

In 1646 he was about to leave fro Hungary with his wife, four children and his friend Dr. Arthur Dee, but death prevented him from realizing his plan.[48] Neither did the other member of the English—Hungarian scientist team survive him long: Arthur Dee died in September 1651.

The history of Hungarian—English medical relations continues with the role of the two Doctor Brownes.

[47] Ibid. Vol. I. 289 p. Cfr. op. cit. pp. 116, 287—290, 375, 384.

[48] "...*Als er im Alter mit dem Arthur Dee, seinem vertrauten Freunde und Sohne des Johannis Dee in sein Vaterland zurückreisen wollte, starb er zu Amsterdam, nach 1650.*" Adelung, J. Chr. op. cit. Vol. I., column 1397.

GENSEL AND SYDENHAM

by DÉNES KARASSZON

The first half of the 18th century in Hungary was the period preceeding the beginning of medical teaching (1769). At that time Hungarian students studied medicine in foreign universities and got acquainted with various philosophical and natural scientific theories. From the point of view of medical history, the 18th century is the age of *Boerhaave* (1668 – 1738). The teachings of the "communis Europae sub initio huius saeculi magister" became generally known in the countries of the Habsburg Monarchy especially through the activity of *van Swieten* (1700 – 1772). In the first half of the century the physicians—having attented different schools—followed mostly the iatrophysical and iatrochemical trend. As regards epidemic diseases, the activity of *Thomas Sydenham* (1624—1689), the "English *Hippocrates*" is of the greatest significance. The teachings of this "practicus londinensis celeberrimus" spread quickly thanks to the subsequent editions of his works all over Europe. The original English edition was translated into Latin by *Mapletoft* and *Havers* and after *Sydenham*'s death they were published in the edition of *Monfort* in Amsterdam, Geneve, Frankfurt, Leyden, Leipzig, Nürnberg, Venice, Padua, Avignon, Montpellier, Vienna and Altona.

The 1723 Genevian edition of *Sydenham*'s "*Opera Medica*" serves special attention in Hungarian relations (22). The publication of this "*Editio novissima variis variorum Praestantissimorum medicorum observationibus quam maxime illustrata et aucta : Imo et iam, plurium Constitutionum Epidemicarum recentiorum descriptione, rursus auctior*" refers to the fact that epidemiological studies like "De morbis epidemicis... etc." were required and presented in order to be of some help in stemming the devastating epidemics. At the same time, the royal privelege which protomed the publication of the works of the famous English physician in the German Roman Empire indicated that Emperor Charles VI (as Hungarian King Charles III) wanted to deepen the friendship between his country and the allied England.

In Hungarian history the period of Charles' VI (III) reign (1711—1740) is remembered not only for the Pragmatica Sanctio, the Piece of Passarovic (1718) and Belgrad (1739) with the Turks, the new measures taken for promoting civil administration, legislation industry and trade in the interest of the regulation of public affairs in the country that has been recaptured from the Turks not long before and perturbed again by the war of independence led by Ferenc Rákóczi II. This period is especially noteworthy from the point

of view of the development of public health, too. The Plague that decimated the armies of Rákóczi was so widespread that according to some historiographers *"between 1709 and 1713 it was Black Death which ruled over Hungary"* (7). In order to overcome the destruction caused by the Plague, Public Health Committees were founded in the towns and on the basis of the experiences of the dreadful Plague of 1738/39 a National Standing Committee of Public Health (Comissio in Re Sanitatis Stabiliter Ordinata) was established under the chairmanship of the primate of the country (13). The organization of national and later county Public Health Committees resulted in the providing of the towns with sewerage and regulation of rivers. The establishment of the institution of municipal, county, district physicians, surgeons and midwives, the introduction of quarantine-stations, strict supervision in order to prevent epidemics are *"measures, the beneficial effect of which makes us forget with pleasure that they take their origin in royal orders"*—says *Demkó* (4). An important step in the organization of the fight against epidemics was the publication of *Sydenham*'s epidemiological treatise together with the "Epidemica Constitutio" referring to the provinces of the German – Roman Empire. The single chapters were written by the most outstanding physicians of the provinces: *Ramazzini* (Padua), *Schroeck* (Augsburg), *Harder* (Basle), *Gahrliep* (Berlin), *Anhorn* (St. Gallen), *Camerarius* (Tübingen), *Stegman* (Mansfeld), *Gerbesius* (Laybach), *Lanzoni* (Ferrara), *Drelincurt* (Leyden) and others. Hungary is represented by *Károly Rayger* (Pozsony) and *János Ádám Gensel* (Sopron).

Károly Rayger the elder (1641 – 1707) was a famous physician in Pozsony, who first applied the "floating" test of the lungs for medico-legal purposes and performed dissections 113 years before *Morgagni*. He is dealt with in several works (17, 21, 24). The life and work of his colleague *Ádám János Gensel* (eques, D.M., AA., LL., Phil. Chir. et Med. D., Acad. Caes. Nat. Cur. Coll., Poliater Soproniensis) is described by *Weszprémi* (24), *Demkó* (4) and *Magyary-Kossa* (17) who publishes *Gensel*'s portrait. We know that he was born on the 26th October 1677 in Sopron from the marriage of *Kornél Gensel* patrician and *Judit Zuana* daughter of the lord mayor. At the age of 17 he went to the University of Jena where he first studied theology but soon changed for medicine where he made considerable progress. In 1699 he held a lecture on ischuria. Having left Jena he went to Bologna, Florenz, Rom and Padua, where he attented the lectures of the most famous professors of his age. In 1700 he became librarian of the students of philosophy at Padua, twice anatomical consiliarius then the vice president of the German nationality, where the Hungarians belonged to. He was appointed "Knight of Saint Mark" by the doge of Venice. In 1703 the title Dr. Phil. et Med. was confirmed on him and his essay-competition paper was rewarded with the highest possible prize and presented to the young Hungarian medical student by His Excellency, Professor *Bernardino Ramazzini*, archiater in Padua. Having obtained his degree, he returned home and became first town physician in Sopron than chief medical officer of the county Vas and court physician in the service of the *Esterházy* family. He was reputed for his wide-spread medicating activity and "multos

olim juvandos antidotis juvans fati necessitate nondum occupatos" he made a considerable fortune. In 1712 he was appointed first member then co-president of the Academia Imperialis Nature Curiosorum called as *Diodorus I.* as a recognition of his scientific activity. He was appointed member of the Royal Scientific Society in Berlin in 1714. In 1719 he publishes a report in the *Schatzkammer der Natur und Kunst:* (p. IX: 314) a case of a mother who has given birth to several children and before labour she consumed spirits and her confinements were almost without any pain.

Gensel died after a long illness on 31st August 1720. He left an annuity of 6000 Ft from the interest of his great fortune to the German Academy of Natural Scinces, owing to which the Imperial Scientific Society was able to open a library to the public. A memorial plaque immortalizes the name of the generous benefactor in the entrance hall of the Library in Erfurt (24).

The repertoir of *Gensel's* works can be found in the work of the medico-biographer *Weszprémi.* Both he and *Magyary-Kossa* (17) mention *Gensel's* work entitled "Constitutio epidemica inferioris Hungariae an. 1711, 1712, 1713 cum historicis et meteorologicis observationibus" published in the paper "Observationes Ephemeridibus Nat. Cur." edited by the "Academia Imperialis Naturae Curiosorum" which was founded in 1652. They fail to mention, however, that this significant work was included in the Opera of *Sydenham.* Hungarian epidemiological history has not recorded the detailed data of *Gensel's* report, either, though it contains important observations on the epidemiological situation in Hungary in the first half of the 18th century. He describes the occurence of variola, morbilli, parotitis, febris tertiana, quartana, intermittens and maligna. He informs us on diarrhoea, rheumatismus, asthma, caries gangraenosa, pleuritis and we learn that in 1711 *Gensel*—following *Sydenham*—made exact observations on the relation between climatic factors, natural phenomena (e.g. earth-quake) and diseases. It is noteworthy that according to *Linzbauer* (16) medical officers were supposed to report on meteorological conditions systematically only from 1799 onwards—to the Council of Governor General.

Special attention should be paid to the fact that *Gensel's* report on the epidemiological situation in 1712 contains also the description of the disease which broke out among the cattle.*

* "Augusto... strages pecorum invalescebat, corripiebantur scilicet certis pustulis albicantibus cum anhelitu difficili, quibus diflectis materia purulenta mephitim spirans effluxit, ex faucibus quoque foetor morticinus intolerabilis, ad aliquot sensibilis passus prodiit, cumque maximis boatibus crepuerunt, in ventriculo reperti fuerunt certi globi magnitudinis nucis majores, repleti pilis tunica membranosa dura aciem vix non eludente instructi; ferae quoque omnis generis ad Somogy ic copia periere, et in memoribus passim a rusticis repertae fuere, canes ex voratione tam illarum ferarum, quam pecorum praedictorum rabidi facti, a quorum morsu homines in phrenitidem inciderunt ac hydrophobiam, latratum etiam et rabiem imitati canum, morsibus in adstantes saevire tristi cum spectaculo coeperunt, imo aliqui remedium laturi aceto et sale ora rabidorum pecorum lavando, rabiem contraxerunt ab illo venenato miasmate, id quod Matthiolus Comment. ad L.6.C.36. Diosc. observavit: multae nihilominus bestiae rabidae servatae fuere, data statim in principio fuligine cum cupro vel orichalco raso pulverisato..." etc.

The fact that *Gensel* referred to cattle sickness in his report of the general epidemiological situation of Hungary reveals the significance or animal diseases occurring in the first years of the 18th century. It was not only due to *J. Hunter* (1728—1793) that the fundamental thesis of modern medicine has been laid down according to which in exploring the function of human organs beyond their mere description, attention should be paid to any other living being. This fact became conspicious on account of the cattle-plague (pestis bovum) of 1711 which spread all over Europe and which carried away several millions animals. The dreadful plague which seemed to threaten with a complete extermination of Europe's cattle-stock urged to action the supreme organizations of public health and medical associations. Consultations were held and declarations were issued in the interest of the defence against the devastating plague (18, 20). This was aimed at in the work of Professor *Ramazzini* entitled "De contagiosa epidemia quae in Patavino agro et tota fere Veneta ditione in Boves Irrepsit etc." dating from the 9th November 1711. It marks the beginning of a new revival in veterinary medicine and is included in the *Opera Medica* of *Sydenham* (22).

It should be stressed that in his report *Gensel* separated the actual cattle plague from the epidemical disease which broke out in 1712 and which according to *Adami* (1) and *Fleming* (8) must have been glossanthrax. The occurrence of glossanthrax has been first described by *Fracastoro* (1514) and *Kirchner* (1617). Its occurence in Hungary is especially noteworthy, because *Gensel's* description reveals the medicohistorical significance of the exact epidemiological observations in the *Sydenham*ian sense. Comparing anthrax with later observations it seems that the character of this contagious disease —important in the history of mankind and medical microbiology—has undergone some changes during the centuries.

As regards the occurrence of anthrax, we find some reference in the Bible, then in the works of *Homer, Dionysos* of Halikarnassos, *Lucretius, Livius* and *Virgil.* Gloss anthrax, however, has been recorded as an independent disease and has not been identified with anthrax until the discovery of the first bacterium in the middle of the 19th century which then gave us the term "bacteriology". It is dealt with in this separation by *Vogel* and *Ballonius* in 1682, by *Boissier de Sauvages* and others in 1731 and in Hungary by *Gensel* (22), *Adami* (1), *Tolnay* (13) and *Zlamál* (25). It was *Röll* in 1882 (20) who first realized that gloss anthrax *"used to occur more often in older times than it occurs nowadays".* In 1894 *Hutÿra* (14) discusses glossanthrax under the entry of the "local form of anthrax" and in 1939 *Manninger* (18) made remarks on the glossanthrax of cattle as a seldom occurring partial phenomenon of the general anthrax infection.

"Anthrax seems to be withdrawing nowadays" said *Henschen* (12). But considering *Gensel's* description we may state that we have to do here with a change in the panorama of the disease too: instead of the localized form of the disease the septicaemic general infection has become prominent. Similar panoramic changes, especially in the history of contagious diseases, have been well-known

from the works of *Bodechtel* (2), *Chiari* (3), *Doerr* (5), *Hamperl* (11), *Henschen* (12) and others but similar observations referring to anthrax have not come down to us.

It is interesting to note that in *Gensel*'s report we may trace the wide-spread theory which had followers even in the 19th century, according to which the outbreak of rabies was attributed to the toxin developing in the carcass of animals having perished due to various diseases and which on the other hand caused rabies in dogs which ate from the carcass. If these dogs happened to bite people, they might have caused the outbreak of a rabies epidemy. This theory had many supporters until *Pasteur*'s appearance, even *Lenhossék* did not refuse to accept similar views (15).

In medical history the introduction and spreading of *Sydenham*'s teachings on the outbreaks of epidemics is connected to the activity of *Ramazzini, Schroeck, Lancizi, Morton, Monavius, Bonet, Stoll* (9, 19, 21). In Hungarian medical history *Sámuel Benkő* (1743 – 1825), the author of the treaties "Novum febris scarlatinae genus" and "Ephemerides meteorologico-medicae" and *Ádám János Rayman* (1690 – 1770), physician of Eperjes—who performed small-pox vaccination before Lady Montague—were the first representatives of the new Sydenhamian trend which relied upon the exact observation of geographical and meteorological factors (6, 10). The above recorded data point to the fact that this trend had several followers in Hungary, with *János Ádám Gensel* among them, whose scientific activity was recognised and appreciated beyond the borders of Hungary, too.

Since the birth of bacteriology and the microbiological schools, *Sydenham*'s merits in the field of epidemiology have only medicohistorical value. The life and work of *János Ádám Gensel,* however, presents us a "medicus in omne aevum nobilis" who opened a significant chapter in the history of epidemiology and infectious diseases.

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BRITISH CONTACTS OF THE HUNGARIAN ISTVÁN WESZPRÉMI, M. D. (1723—1799)

by VIOLA R. HARKÓ and TIVADAR VIDA

When István Weszprémi was born, Hungary had already been liberated from the Turkish rule which had oppressed her for over one-hundred and fifty years, but the Austrian "aid" to get rid of the Turks demanded additional sacrifices from the long-suffering Hungarian people, finding themselves oppressed once again. Even the foreign traveller caught this mood, as, for instance, Lady Mary Montagu, who made a journey through Hungary in the company of her husband, the British Minister to Constantinople and had been very much afraid of the trip because it had been intimated to her that dangerous frost-bites, barbarous attacks by highwaymen, and a desert of snow, with nowhere a house or human being in sight, awaited those bold enough to cross the country. Although none of this happened, she regretfully mentioned in a letter sent home[1] that there was nothing sadder in the world than travelling in Hungary, especially in view of the fact that the country had once been flourishing, and now there was hardly a man to be seen over vast areas.

In the decades following the Peace of Szatmár, the sheer biological strength of the nation nonetheless saved the country from destruction and the more animated spiritual atmosphere of the Enlightenment made its beneficial effects felt in Hungary, too. The population doubled through immigration, there were more people to till the land, and although the country was reawakening, she was still decades behind general European intellectual and economic development. Nevertheless, some great personalities emerged—clergymen, physicians, naturalists, and printers—many of them polyhistors with a definite ambition to give new momentum to Hungarian intellectual life. One of these outstanding personalities of the times was István (Csanádi) Weszprémi, a physician, with whose British contacts we wish to deal in this paper.

WESZPRÉMI'S YOUTH AND SCHOOLING

Weszprémi came from a Presbyterian family of bourgeois stock; his family name was actually *Csanádi*. His parents devoted a great deal of attention to his education, and sent him at the age of nine to study at the Presbyterian boarding school of Pápa, which he attended for three years. He continued his studies

[1] *Letters of the Lady M-y W-y, written during her Travels.* Paris, 1799, Letters XXI and XXIII.

at Sopron and Besztercebánya, and in 1741 went to Debrecen to enroll in the famous college there. *"Ego Stephanus Weszprémi subscribo legibus Coll. Debreczinienses"*—that was the statement he recorded and signed in the register of students. With his admission, he changed his last name to that of the city of Veszprém instead of his original family name. From then on he referred to himself as "Csanádi" only in his correspondence. After his stay abroad, he came to spell his name always with a *w*; until then he frequently signed *Weszprémi* with a simple *v*.

The spirit and outstanding professors of the Presbyterian College in Debrecen left a lasting mark on Weszprémi's personality and influenced the development of his talent and later his choice of an occupation. His professors included a number of clear-thinking and broadminded savants who had travelled widely outside of Hungary and taught at the best European standard. Such were, for instance, György Maróthy, Sámuel Szilágyi, István Szathmári, János Tabajdi; and, above all, István Hatvani whom he particularly admired and liked and who was, by the way, a naturalist, philosopher, theologian and physician all in one, a man of European fame. His professors, most of them adherents of the Cartesian philosophy, were ready to espouse the ideas of the Enlightenment, among them religious equality.

During the ten years that he spent at the Debrecen College, Weszprémi received a number of admonitions because of insufficiently explained absences, unbecoming conduct, and his apparel. Nonetheless, as a gifted student, he had been appointed to several student offices; he was *praeceptor oratoriae, contrascriba, bibliothecarius* and then senior. Hatvani was his faculty advisor in the library and in the care of students reported ill, which later was one of his duties as a senior. Day after day he grew to admire the eminent professor more, both as a physician and a human being. In his diary (of this more will be said later) he mentions that this was the time when the first serious medical book, namely William Harvey's *Exercitatio anatomica,* came into his hands.

He showed interest in medicine already as a librarian. According to the college records[2], he purchased several medical works at the auction of the Diószeghy library; these included, apart from the works of several well-known medical authors, the above-mentioned work by Harvey. As to the medical literature then available in the college library, there is ample evidence of British influence there. According to the data of a catalogue from 1706, volumes in English—86 in number—predominated among the foreign-language books. These books went into the possession of the College not only by way of purchases or bequests but also through the itinerant students many of whom visited Dutch and English universities and medical schools. It was a fine tradition that these students considered it an obligation to bring some valuable and

[2] Debrecen College Archives, C.4.1. reported by György Elekes: *Adatok Weszprémi István dr. életéhez és munkásságához.* (Data on Dr. István Weszprémi's Life and Oeuvre.) *Orvosok és Gyógyszerészek Lapja* (Medical and Pharmaceutical Journal), 1937. Vol. VIII, pp. 287–288.

useful books for their alma mater from foreign lands. They even managed to smuggle in some books which otherwise the strict censorship would never have permitted into the country. The library, which survived a lot of tempests, had by that time two thousand volumes, ten per cent of them English works. Although most of the 85 volumes mentioned figure as *Liber Anglicus*, without further title, in the catalogue, some can be identified. It can be established, for instance, that the collection included several English dictionaries, grammars (e.g. György Komáromi Csipkés's *Anglicum Specilegium* published in Debrecen in 1664) encyclopaedias and biographies, and Felvinczi's Hungarian translation of the *Schola Salernitana* published by Thomas Paynell.

An examination of the British-related material in a catalogue dating from thirty years later indicates that the material was growing richer, and the predominantly theological works were joined by contributions from well-known authors in other disciplines, thus writings by Bacon, Boyle, Blount; Walter Harris (1647—1732), the physician, Richard Lower (1631—91), Richard Morton (1637—1698), William Harvey (1578—1658), a herbarium and a pharmacopoeia published in London, a number of natural science works, not to speak of historical, legal, literary and classical authors. The numerical increase in English books was also significant. Unfortunately, the catalogue compiled in 1750, while Weszprémi was librarian,[3] got lost in 1944, although it already included a description of György Maróthy's valuable collection consisting of 241 valuable volumes, which had some interesting material of British references. Maróthy knew English well and, in his draft curriculum proposed in 1741, suggested already the introduction of instruction in English as well as fostering German and French knowledge. Prior to this, he had presented an English—Latin dictionary to the College Library, in order to facilitate language study.

There is good reason to suppose that during his years in Debrecen Weszprémi acquired a rudimentary knowledge of English, French and German besides a sound knowledge of Latin; this is indicated by his translations. During his work as a librarian he was thus able to become acquainted with all the works in his custody which interested him. Hatvani, as his faculty advisor, probably also helped to orient him in the direction of the natural sciences, and so it was little wonder that he wrote in his Diary about the years in Debrecen that they encouraged him to turn to the medical sciences.

[3] Harkó, Viola R.: *A debreceni ref. Kollégium angol könyvanyaga és annak kialakulása.* (English-language works in the Calvinist College of Debrecen and the Development of the Collection.) Ph.D. dissertation. Debrecen, 1948, p. 47.

FOREIGN JOURNEYS: AUSTRIA, SWITZERLAND, HOLLAND, ENGLAND

Weszprémi set out on his study trip in the summer of 1752 when he was 29. As he was a Presbyterian, he did not remain in Vienna, but after a three-month stay there and having met and made friends with Gerhard Van Swieten, he went on to Switzerland. He studied medicine in Zurich, reading chiefly anatomy. It was a significant event of his stay in Switzerland that the faculty of the College at Debrecen, when the city stopped paying them, on an order from Maria Theresa herself, sent him three S.O.S. letters. He handed one of these to Conrad Wurz, a minister of the church in Zurich, while, he forwarded the other two, through his academic friend Ferenc Kolmár, to Archbishop Thomas Harring of Canterbury and to the Faculty of Theology in Utrecht.[4] (It is an erroneous belief that Veszprémi himself had at that time direct contact with England. This was before he visited England, while he was staying one and a half years in Switzerland.) The campaign was successful; not only the Presbyterian church in Switzerland and the Netherlands helped with substantial sums, but the Archbishop of Canterbury, some English dioceses and the Universities of Oxford and Cambridge made endowments to benefit the College at Debrecen, which was able to subsist on these funds until 1774.

The next stop in Weszprémi's journeys was the University of Utrecht, where he received high-level medical training. That was the time when the Boerhaave school was flourishing in Holland. In the spirit of its founder, it applied the newest contemporaneous achievements of the natural sciences and consistently insisted on clinical instruction at the medical faculties of the universities.

Weszprémi, as did most of his fellow-students often visited England from Utrecht.

During his over four years of "exile" he studied chiefly medicine. His Diary[5] —which was found by Francis Murray, a British historian of literature, at one of the Oxford archives—provides information about Weszprémi's stay abroad and the impressions he gained. The Diary, kept in Latin, with only the last part—written during his stay in England—in English, is a 160-page note-book in a good state of preservation and filled with handwriting. According to D. Lofthouse, an English critic of the Diary, Weszprémi wrote English with grammatical and stylistic precision. This only recently discovered diary must have got mixed up with the books and university notes which Weszprémi presented to the Oxford library before his departure from England. His diary is not only an important source for any biographer, but is also a significant literary work which ranks its author among such outstanding Hungarian representatives of the genre as Miklós Bethlen, Miklós M. Tótfalusi, and Kelemen Mikes.

[4] Nagy, Sándor: *A debreceni ref. Kollégium. Kerettörténet.* (The Presbyterian College of Debrecen. A Flash-Back.) Debrecen, 1940.

[5] Lofthouse, David: The Road to Life. *Philosophical Transactions*, Oxford, 1952, pp. 648–681.; Sükösd, Mihály: Weszprémi István Naplója (István Weszprémi's Diary). *Irodalomtörténeti Közlemények*, No. 3, 1956, pp. 322–324.

WESZPRÉMI IN ENGLAND

According to his own biography[6] and the data supplied by his diary, Weszprémi visited England more than once. Although the first notes dated in England are from February 1755, he went twice to England after he had started his studies in Utrecht, and he spent one and a half years in London. He came to know Oxford and Cambridge—both of them significant universities from the point of view of medicine—their libraries and even the private libraries of some of their colleges. He himself did not record this, but Robert Townson[7] met Weszprémi when he was in Debrecen in 1793, and alleged that Weszprémi had studied for some time in Edinburgh.

During his studies in England Weszprémi attended lectures by William Smellie, one of the most outstanding obstetricians of the period, from whom he even *"won certificate of honours in the English language"* as he wrote in his autobiography.[8] Apart from obstetrics, he was interested in anatomy, surgery, chemistry and botany. He frequented the London hospitals and lazarets.

The medical experience and theoretical instruction he acquired in England helped Weszprémi not only to write his by now famous dissertation, but also stimulated him to contribute one of his most important works, the *Tentamen de inoculanda Peste.* Before we assess his *Tentamen,* we should mention another work which was until quite recently regarded in professional circles as Weszprémi's, namely *The Grand Question debated, or an Essay to prove that the soul of man is not, neither can it be, immortal...* Dublin, 1751.

It was supposed that the date of publication was a misprint, and should read 1755, in other words that it was an original work written during Weszprémi's stay in England. He himself included the Hungarian translation of the English work[9] in his Autobiography, among his unpublished works. Until now his biographers attempted to explain and analyse his philosophy and his extreme materialism on the basis of this work, believed to be an original contribution.

It can be put on record as a most likely result of recent research[10] that the author of this work—which is not a short 10-page paper, but a 74-page thesis—was not Weszprémi; he merely translated a work published in 1751 in Dublin, which is in fact by Kenrick William, Ph. D., who wrote under the pseudonym of Ontologos. Another work by Kenrick is a sequel to this—and very closely connected, for without it the first part can not be properly assessed. In the second part he answers the "Grand Question" posed in the work translated

[6] Weszprémi, István: *Succinta medicorum Hungariae et Transylvaniae Biographia.* Budapest, 1960. pp. 405–417.
[7] Townson, Robert: *Travels in Hungary.* London, 1797, p. 236.
[8] *Pannoniae Luctus.* Pozsony, 1799, p. 88. (A Biography of Weszprémi, written by János Földi, his son-in-law.)
[9] Weszprémi, I.: *Op. cit.,* p. 413.
[10] Módis, László: Weszprémi István és The Grand Question (István Weszprémi and The Grand Question): *Theologiai Szemle* (Theological Review), 1960, Nos. 1–2, pp. 117–119.

by Weszprémi, trying to prove that, after all, the human soul *is* immortal.[11] This answer appeared also in 1751, but in London. As a matter of fact, Kenrick used some other pseudonyms in other works, writing, for instance, under the name of John Rubrick. In 1767 Weszprémi burnt the Hungarian translation of the first paper as a "godless and damnable" work before the eyes of his friends. We believe that he would not have done so if he had already seen the "answer" given to the "Grand Question". Consequently, it is an exaggeration to evaluate Weszprémi's philosophy on the basis of this work as did earlier authors. By the way, Weszprémi burnt only the translation; the original English work remained in his library, and in fact he lent it to be read; we have the proof of a note written in his own hand to remind him to whom the book was loaned.[12]

WESZPRÉMI'S TENTAMEN

The most significant event of Weszprémi's stay in England was the publication of his *Tentamen de Inoculanda Peste,* (auctore Stephano Weszprémi, Pannonio, Londini, J. Tuach 1755). The thesis probably appeared only in a small number of copies because still existing prints are regarded as very valuable and rare. The volume in the possession of our Institute in 1756 was presented by the author himself to János Varjas, a professor at the Debrecen College, who taught at the College after having studied in Holland from 1752 until his death in 1786. Probably the two men had been friends in their youth. After the death of János Varjas the book passed into the possession of dr. János Zsoldos, a physician, later the head physician of the County of Veszprém who wrote a number of eminent medical works.

When Weszprémi wrote his *Tentamen* he tackled only the most urgent and most serious problems of his times. Up to the middle of the 18th century the population of Europe used to be decimated by epidemics. The plague was the chief killer of adults, whereas the smallpox and measles epidemics took a heavy toll of children. Weszprémi was 16 when one of the most terrible epidemics of the plague went through Hungary, in 1739, killing 310 000 people. He also witnessed several smallpox epidemics. These frightening memories probably haunted him even in his maturity.

The popular belief about the plague and other infectious diseases wasin Weszprémi's childhood still based on the biblical view: *"The Lord shall make the pestilence cleave unto thee... The Lord shall smite thee with a consumption, and with a fever, and with an inflammation... The Lord will smite thee with the botch of Egypt, and with the emerods, and with the scab, and with the itch, whereof thou canst not be healed...*

[11] Kenrick, William: *A Reply to the Grand Question debated,* fully proving that the soul of man is, and must be, immortal: wherein the folly and infidelity of Deism are exposed, and the belief of the Christian system proved, rationally, necessary. By Ontologos. Vol. VII, p. 77. London, 1751.

[12] Módis, L.: *Op. cit.,* p. 119.

And ye shall be left few in number, whereas ye were as the stars of heaven for multitude; because thou wouldest not obey the voice of the Lord thy God." (Verses 21, 22, 27, 62, Chapter 28, Deuteronomy.)

Even as late as 1690, the great Hungarian physician Ferenc Páriz Pápai wrote in connection with the plague in his work entitled *Pax Corporis* (p. 299) that "*the reason for this malady lies in... the dreadful judgement of God for sin*". He thought that the disease spread through the agency of air: "*the pestilence looms in the air*", he wrote.

The men of science were not content, however, with this pessimistic popular attitude which suggested a good excuse for passivity, but sought for the cause of the disease, its essence and ways to combat it. It was soon discovered that the plague was infectious, and in fact during the big epidemic of 1656 in Italy, the Jesuit monk Athanas Kircher was able to notice with the help of his primitive magnifying lenses innumerable tiny "vermin" in the blood and secretions of corpses infected with the plague, and by his observation and publication of this phenomenon he inspired further experiments.

The view that the epidemic spread not through direct contact with the clothing and possessions of the ill gained ground in the early 18th century. This recognition brought with it the introduction of various health measures, such as quarantines and fumigation to prevent the spread of the disease. Used to theological explanations, Hungarian doctors (György Buzinkay, Dávid Sámuel Madai, Dávid Gömöry, and Dániel Perliczi) probably wrote by this time just as a matter of habit that the pestilence visited man as a punishment from God. Then again, after they reviewed the then modern therapeutic and preventive methods, they came out because of sheer habit with the encouragement that in the case of the outbreak of an epidemic everybody was to "*trust God, bearing courage and good cheer in fearless hearts*". Although the Hungarian physicians were fairly well-versed in foreign medical literature, with the sole exception of Ádám Raymann of Eperjes, who is known to have performed a successful smallpox inoculation in his native town, they knew but little about the methods of prophylaxis connected with variolation and inoculation before Weszprémi's work was published. And yet in England the method of protective inoculation Dr. Emmanuel Timoni introduced in connection with the big smallpox outbreak in 1701 in Constantinople was reviewed already in 1713 in the periodical entitled *Philosophical Transactions* published by the Royal Society. The method was popularized by Lady Mary Montagu, the wife of the English envoy to Constantinople in the 1720's. True, between 1726 and 1746 the cause of inoculations was forgotten even in England, and interest in it was reawakened only when J. Maddox, the Bishop of Worcester, founded in 1746 a society for the dissemination of inoculations. In fact a public inoculation house was set up in London, where almost two thousand persons were successfully inoculated, including 300 adults. The poor were inoculated gratis. Gradually even medical practitioners adopted the method of inoculation, and the question was decided largely in favour of the technique by a decision passed in 1754 by the medical association in London, which enjoyed great

prestige. The development of this atmosphere in support of inoculations was hastened also by the regrettable circumstance that in 1752 a severe smallpox epidemic broke out again in London, killing 3538 people.

Weszprémi's stay in England coincided with the time when the favourable turn of affairs came in connection with variolation. He witnessed the successful inoculations and made a thorough study of the medical literature on the subject, for a this time a number of well-known authors, such as Thomas Sydenham, Richard Mead, John Huxham and many others, made their voices heard in connection with the epidemics and the possibilities for averting them.[13] Weszprémi was particularly influenced by a thesis entitled *"Report on the preparations and producedures for smallpox inoculation"* (London, 1754) by Jacob Burger (Burgesius). He translated the paper from English to Latin, *Relatio de praeparatione et administratione ad inoculationem Variolarum necessariis*, but his translation remained unpublished. Weszprémi mentioned Burgesius's work even in his *Tentamen* (p. 8). He probably did not discuss the technique of smallpox inoculation in his own thesis because he thought that Burgesius's description would provide the instructions required.

Weszprémi explained the purpose of his dissertation with a quotation from Seneca: *"There is still plenty of work left to be done, and there will be yet a lot; even a thousand centuries from now no man will be in want of the opportunity to contribute something more."* Weszprémi knew that when he proposed the inoculation against the plague, he was making a contribution which should be followed by many others.

He dedicated his book to Michael Morris and W. Hunter, his ex-professors, and medical colleagues at the public hospital in London, the first the professor of chemistry, and the second of anatomy. At the beginning of his work reported

[13] Sydenham, Thomas (1624–1689), the "English Hippocrates", rejected all traditional dogmas. He considered medicine an art in which the observations made by the sickbed were decisive. He sought for the sources of illness in the "humours", and insisted throughout his lifetime on his own "purified Hippocratism". He believed that there were two reasons for the generally prevalent diseases: 1) atmospheric causes, and 2) unknown causes emanating from the depths of the Earth which pollute the atmosphere. He believed that climatic and seasonal conditions caused in some years pestilence, and in others smallpox. He did not publish much. In his *Observations medical* he reviewed the diseases prevalent in London from 1661 to 1675. He is buried in Westminster Abbey.
Mead, Richard (1673–1754) studied medicine at several European universities, and then, having returned to London after studies abroad, he became a court physician. He was a member and later vice-president of the Royal Society. He was one of the founders of a London hospital, and a follower of Sydenham. Of his works, Weszprémi must have been particularly interested in his *A short Discourse concerning Contagion and the Method to be Used to Prevent it* (London, 1720 and several later editions), and *De variolis et morbillis liber* (London, 1747), which he wrote on the occasion of the plague epidemic in Marseilles and in which he insisted on the usefulness of inoculation.
Huxham, John (1694–1768), an eminent epidemiologist, who won special merit for his contributions to the combat against infectious diseases. He published his observations on the subject in 1739 in London: *Obs. de aere et morbis epid.*

with pleasure on the import of smallpox vaccination to England and its spread there, and about the support of the cause of inoculation by Bishop of Worcester J. Maddox. He condemned those who opposed inoculation, refused to submit to it or spoke against it, even if they used the pulpit to do so. Nor did he have any confidence in the effect of the powder of Venetian origin which a surgeon advertised as capable of *"overcoming the poison hiding in a body which is unable to put up any resistance"*. What the fate of this mystic powder will be, time the best master, will teach us, he wrote.

Going a step further in his argument, Weszprémi raised the possibility of active immunization. With his manysided observation of men and animals and sharp judgement he realized that inoculation, until then applied only against smallpox, could be used to combat other contagious diseases; in other words he was striving to derive a general principle from a particular procedure. He observed that the individual contagious diseases took their course independently of each other, one did not neutralize the other, and anyone could get each of them separately whether he had had some contagious disease previously or not. He expressed this in the following way: *"The contagious diseases will not tolerate any kind of mingling..., the effect of chicken-pox will produce only the poison of chickenpox fouling up thereby the mass of the blood; with the consequence of the plague you will not introduce into the body either smallpox or measles, nor any other kind of contagious disease, and in the same way with sanious material discharged by the patient if you attempt to perform an inoculation, you will produce only poison of its own kind... It is very difficult to determine the substance and quality of this poison, but we know that is a specific poison."* (*Op. Cit.* pp. 7—8.) He recommended that, similarly to the procedure in the case of smallpox inoculations, the poison of pestilence be introduced artificially into the body at times of epidemics of the plague. He demonstrated that the course of human and animal pestilence is similar. He did not claim to have a reliable explanation why one organism became ill and the other did not, but he supposed that the body absorbs the pathogenic material, and partly retains it and partly re-issues it into the outer world. The pathogenic material causes illness in one person, whereas the organism of the other, like some chemical oven, destroys the alien material. He discovered that the organism has a certain inclination for or against contagious diseases; there is acquired immunity at the cost of having had the illness in question, and there is also natural resistance. Through inoculation, milder "materia morbifica" is introduced into the body, therefore the method is good, and since smallpox inoculation has already been proven, it can also be extended to other contagious diseases. This was his splendid discovery. To quote his own words: *"From this system thus outlined it can be best explained what happens in the cases of our epidemic diseases. We would not like to spend time on the explanation of all kinds of trivial things, we yield these to those who deal with such matters. I add here merely what I think is very much my own business: Nothing is better known then the fact that in the cases of the smallpox and measles there is no longer room for contagion once we have shaken the morbid material from our insides; thus, if in the future we*

produce through inoculation the seed of the plague as a foul part of the body fluid, we will not take ill care of human kind and the power and strength of the states may lie in the multitude of citizens." (*op. cit.* p. 26.)

It should be pointed out on the basis of the detail quoted that Weszprémi not only stressed inoculations against the plague, but also emphasized the usefulness of the method in case of the measles as well. Francis Home, M. D., an Edinburgh physician, was the first to inoculate against the measles. Weary of the frequent epidemics of the disease and its high death rates, he started to inoculate against the measles on March 21, 1758. His first patient was a seven-month child in whom he produced a mild illness free of complications, with the help of a cotton thread dipped in measles-infected blood. By this technique, Home particularly hoped to avoid the grave lung complications frequent with the measles.

The news of the successful measles inoculations spread relatively fast to Hungary. Márton Marikovszky translated Simon André Tissot's work under the title "Report to the People applied to the state of our country" (Nagykároly, 1772) and wrote: "*In foreign countries where the red pox is dangerously prevalent, it is customary to inoculate this too from one person to the other, a custom which might well be adopted in our country, though the state of affairs is with this as with the smallpox; in other words inoculating against it would be useful if separate hospitals were built to this end also.*" He devoted a separate chapter to smallpox inoculation, approving the principle, but stating that hospitals would be needed for applying it (*op. cit.* pp. 220—221).

In his *Útmutatás* (Guidance), dealing with the pox, János Báti (Báthi) dealt also with the measles. He mentioned Home's successful inoculations, but stated that the method had made no headway in England. "*...although Mr. John Cook (Gentleman Magazine, 1767, p. 63) insists that after Home had made a try in Edinburgh, many Scottish doctors followed suit.*" (*op. cit.*, pp. 217—218)

Decades after the recommendation of the technique by Weszprémi and its practical application by Home, the inoculations performed by Mihály Katona in the County of Borsod, Hungary, deserve mention, for in 1842, when an epidemic of the measles developed, he performed a large number of successful inoculations.

After this aside, let us come back to the problems of inoculation against the plague. A survey of contemporaneous Hungarian literature on the disease indicates that one the first reactions to Weszprémi's proposal came from Gábor Zágoni, who in a thesis he published in 1764 in Utrecht *(De Inventis Hujus Saeculi in Arte Salutari Novis)* lists the significant medical discoveries of his times, both the theoretical and the practical contributions. He does not approve of inoculation against the plague, and appears in this field as an opponent of István Weszprémi's.[14]

[14] Mentioned by Elekes, György in "Az orvostörténetírás története Erdélyben (The History of Medical Histography in Transylvania)". *Orvosi Hetilap* (Medical Weekly), 1942, No. 31, p. 376.

The Russian Samiolowsky was another author after Weszprémi who recommended prophylaxis on the model of smallpox inoculations against the plague. In contrast to Weszprémi, who did not perform any experiments and did not describe the technique. Samiolowsky performed successful inoculations bringing about mild illnesses, in 1781.

A work written in German by the Hungarian Zakariás Huszti (*Diskurs über die medizinische Polizey*, Pressburg and Leipzig, A. Löwe, 1786, p. 266) was the first to report Samiolowsky's experiments to Hungarian readers. According to Huszti, Samiolowsky, a Russian surgical officer, inoculated over a thousand people with good results and rid himself three times of the disease, finding, that by means of inoculation one could stay uninfected in an epidemic. Further empirical evidence was needed before inoculations could be universally applied though he himself was greatly in favour of them. He pointed out that the Hungarian Dr. Weszprémi had thirty years earlier at the idea—as expressed in his work *Tentamen de Inoculanda Peste* (London, 1755)—that the unfortunate consequences of pestilence could be prevented by means of inoculation the same way as was the case with smallpox. He also mentioned the contributions of the Hungarian Adam Raymann to the introduction of smallpox vaccination in Hungary, and reported on Home's inoculations to combat the measles. (op. cit., pp. 271, 274)

For the sake of historical truth it must be admitted that just recently we found a work whose title page read:

Smallpox Vaccination—or ways and means to cause smallpox through artifical inoculation. This was practiced already fifty years ago in the East and the report of the local physicians reviewed it for the Royal Society in London so to become known in Europe.

The origin, proceedings and use of this interesting operation was earlier investigated in an M. D. dissertation and now described and thoroughly discussed in German together with the full report for the benefit of all by Doctor ABRAHAM VATER, full professor of medical science and assistant professor for anatomy and botany, and a member of the Society of Naturalists.

Wittenberg, the widow Gerdesius, 1721.

Having studied this thesis we decided to quote three parts:

"...*And now it may occur to someone that it is possible with this kind of an infection to extract—so to speak—the venom of smallpox, then this sort of thing can most likely be applied in the case of the plague and other contagious diseases as well. True, there is considerable difference between the plague and smallpox...; nonetheless perhaps a few likely arguments could be found in support of the supposition that this is possible not only in the case of the latter but may be just as useful in case of the plague...*" (He goes on to list the similarities between the two diseases.) (*Op. cit.*, p. 37.)

"...*If the former* (i.e. the empirical evidence) *agreed with the latter* (i.e. theoretical idea) *that the usefulness of such a thing was not less than in the case of smallpox, then in this way, before the plague became too overpowering, some could be saved with the material taken from the buboes of those who luckily survived*

after the bursting of their plague-spots, so that they would be spared all fear. In this way they could rush boldly to help others in need, that is, if we suppose that all those who contract the plague through inoculation with its substance, get over it more easily. But then, as we said, this is nothing but pensive thoughts which, however, do not lack probability." (*Op. cit.* p. 39.) "*I, thank God, have never had any direct experience with the plague and so I do not wish to indulge in further meditations which might only provide the opportunity for others to say of me that I am sticking my nose into something I know theoretically but of which I have no practical understanding...*" (*Op. cit.* p. 40)

Abraham Vater (1684—1751), the man who raised the above thoughts, was a professor of anatomy and botany in Wittenberg, Germany, and had visited the universities of Germany, Holland and England during his studies. Probably he became interested in the investigation of ways to combat epidemics of the smallpox and the plague already during his trip in England. Apart from the above work, he published a translation of Benjamin Colman's book, originally written in English, about the results of inoculations in New England.

The work we quoted from probably did not come to Weszprémi's attention because, if it had, he would have mentioned it. The cause of inoculations slipped from interest between 1726 and 1746, and according to our research, Vater's book was published earlier, without eliciting adequate response. Nonetheless Weszprémi's insight into the possibilities of protection against the plague by inoculations remains even so a considerable feat, for he strove to ground his supposition scientifically, which Vater did not attempt to do.

The medical historians of the 20th century—the Hungarian Tibor Győry, Gyula Magyary-Kossa, and the German M. Neuburger, Stricker, and Kolle and Wassermann[15]—reviewed Weszprémi's importance in the development of active immunisation therapy against contagious diseases, and administered justice to his ideas, so saving them from sinking into oblivion.

In conclusion it can be said of Weszprémi's *Tentamen* that is was the most significant work written during his stay in England. Contemporaneous critics received the work favourably (*Monthly Review*, July, 1755), but still his contribution did not get the attention it would have deserved. The reason for this may be sought in the fact that it appeared only in Latin and in a small number of copies at that (in this we have to contradict the allegations of some authors who speak of English and French versions—which, in our opinion were at best reviews, for no copy in any other language has yet been found), and not even a full Hungarian translation was available. On the other hand, Weszprémi failed to support his hypothesis with successful experiments and with the development of the technique, nor did his work fall into the hands of those

[15] Győry, Tibor (*Orvosi Hetilap*, 1909, Nos. 27–28); (*Deutsche Med. Wochenschrift*, 1909, No. 47); Magyary-Kossa, Gyula (*Magyar orvosi emlékek — Hungarian Medical Reminiscences*, Vol. IV, Budapest 1940, pp. 64–70); Neuburger, M. (*Die Vorgeschichte d. antitoxischen Therapie d. akuten Infektionskrankheiten* Stuttgart, 1901); Stricker (*Die Pest*, II, Giessen, 1910); Kolle-Wassermann (*Handbuch d. path. Mikroorganismen*, 1904).

who could and would have performed this task for him. He did not even inspire the Hungarian physicians to do this although the people of Hungary suffered a great deal from the Black Death for centuries, and he wanted to help in the first place his own country, which in his opinion needed inoculations the worst, for "*...thousands of immigrants swarm into Hungary as if dropped from a pregnant Trojan horse. And how they have spread contagion throughout the country is evidenced by the desolated areas, deserted and deprived or their population.*"

In 1756 Weszprémi was in Utrecht. He received his medical degree there and in that year on the basis of his excellent performance at the oral examination and of a medical dissertation on cases noted and dissected during his stay in Zurich and chiefly in England. The thesis brought him renown and success. Professor G. B. Morgagni of Padua, for instance, paid tribute to his observations, and later in his epoch-making work of pathology written in the form of 70 letters[16] characterized Weszprémi with the adjectives *clarus* and *laudatus* and cited his cases with the proper conclusions. Haller[17] also used and appreciated the data from his dissertation.

In this way his medical observations in England and his successful medical studies in that country brought recognition for Weszprémi and gave manifest proof of his talent.

After he received his degree, Weszprémi started for home, where began a new productive phase of his life. He spent over forty years in Debrecen, the town whose college prepared him so well for studies at foreign universities.

WESZPRÉMI'S LIFE AND WORK IN DEBRECEN (1757—1799)

Before starting to work as a physician, Weszprémi, as all graduates of foreign universities, had to pass a special examination supervised by the health councellor of the Governor's Council. He took the examination on April 27, 1757 and passed with honours. So he was permitted to settle and practice medicine in Debrecen.

What was this east-Hungarian city like in those days? We can refer the reader to a description by a Britisher. Having visited Hungary in 1793, Robert Townson wrote of Debrecen in the following vein:

"*To what circumstance Debretzin owes its existence I don't know; nor can I divine what can have induced thirty thousand people to select a country destitute of springs, rivers, building materials, fuel, and the heart-cheering vine for their*

[16] Weszprémi's M. D. Dissertation: *Disputatio Inauguralis sistens Obs. Med...* submisit St. Weszprémi Pannonius. Trajecti ad Rhenum, 1756. Weszprémi's medical observations are mentioned in Morgagni's *De sedibus et causis morborum per anatomen indigatis.* 2nd ed. Patavii, 1765. Sumpt. Remondinianis, Vols. I—II. 64th letter, Chapter, 4, p. 361 (chest diseases). 65th letter, Chapters 16—17. p. 369 (abdominal diseases). 68th letter, Chapter 2, p. 379 (on fevers).

[17] Haller: *Elementa physiologiae corp. hum.* Vols I—VIII. p. 226, Vol. VI.

residence. Debretzin, though it has the title and privileges of a town must be considered a village; and then it is perhaps the greatest village in Europe. But should it be considered a town, it is one of the worst, though its inhabitants are not the poorest... The houses, with only a few exceptions, consist merely of the ground-floor; they are thatched, and have the gableend turned towards the streets: these are not paved; but balks are laid down in the middle for the Pietons.

By far the greatest part of the inhabitants are Calvinists: their gloomy manners and dress, together with the gloomy weather that happened during my stay here, made this altogether a dismal place. The principal college of this sect in the kingdom is here..."

After this Townson dealt with the circumstances of the instructors and students and notes the other things which lend special interest to the town, the local pipe, the long sleeveless frieze capes the local peasants wore, the excellentes favoured bread baked there and the quarterly fairs. He mentioned the *"tolerably good inn"* and the *"very poor vine"* growing in the neighbourhood. He found the town gloomy and was glad to leave it. The only surprise the locality provided was that he met there *"four or five gentlemen who had visited our island."* He also referred to his meeting with Weszprémi, writing that he thought Weszprémi had studied some time in Edinburgh.

Among the gentlemen he met he mentioned, apart from Weszprémi, Mihály Benedek (1748–1821), Bishop of Debrecen and a well-known philologist, who spent three years at foreign universities, including Oxford. Townson relates of him that when Benedek met Gypsies in England he understood their vernacular. We know not only from Townson, but from other sources, too, that a circle of friends and associates of strong English sympathies formed around Weszprémi. Sámuel Kazay, the pharmacist, who had a library and numismatic collection, valuable and representative even from a British point of view; István Segesvári, the medical practitioner of Debrecen, who was noted for his "Anglomania", and even Professor István Hatvani, known for his contacts in England, who was not only Weszprémi's professor, but later also a close friend and his family physician treating even his children.

As his first wife died, Weszprémi married twice. Several children were born of both marriages, but he lost them all except for his daughters Julianna and Sophie.

He worked as a physician for ten years gratis and then for over thirty years with pay. With the passing of time he became relatively prosperous, and had his own house, land and vineyard. His valuable library was sold after his death. Some of his books went into the possession of Ferenc Kölcsey (1789–1838), the great Hungarian poet.[18]

As his medical practice made him aware of the low level of public health in Hungary, Weszprémi continued his contributions to professional literature in order to improve the situation. His book entitled *A kisded gyermekekről*

[18] Jancsó, Benedek: *Kölcsey Ferenc élete és művei* (The Life and Works of Ferenc Kölcsey), p. 30.

való rövid oktatás (Brief Instruction on the Education of Small Children) was written already in 1758, but was published only in 1760 at Kolozsvár (today Cluj, Rumania). This is not the place or time to assess the work as a whole, but let us remark that it showed Weszprémi's continued interest in prophylactic inoculations against smallpox. In the introductory dedication to Ádám Tholdi de Szalonta, he wrote, *"When children reached the fourth year of their lives, we could inoculate them with smallpox. It is certain, as can be seen from thousands of examples in foreign countries, that no one inoculated with it ever died or had his face disfigured: even in the lazaret we had a few hundreds inoculated with it, but I have never seen a single one, nor have others observed anyone, who had more than fifty or 60 poxes over his entire body."*

Weszprémi regretted the backwardness of his country in obstetrics. He was again referring to his experiences abroad, and especially in England, when in his "Brief Instruction on the Education of Small Children" he wrote: *"In England and in foreign countries no one may be a doctor, chirurgist, or midwife until he has mastered the trade and has not presented his mastery in actual manual operations."*

His contemporaries regarded Weszprémi an excellent obstetrician. He received his training from William Smellie (1680—1763), who attested the skill and qualifications of his pupil with a certificate he made out in his own hand. Smellie was one of the greatest obstetricians of the times, and invented several instruments used to this day in obstetrics. His obstetrical forceps, for instance, still help physicians to cope with a number of obstetrical problems, such as a narrow pelvis or the need to correct the position of the head of the foetus.[19]

Weszprémi followed in his footsteps as such a gifted pupil that his name was recorded in professional literature (Seibold, Baas, Gurlt-Hirsch), and he was ranked among the masters of the art. That may have been the reason why when Joseph II visited Debrecen in 1770, he questioned Weszprémi about his obstetrical practice. Weszprémi answered that regrettably the local women were prudish and the husbands were antagonistic, so he was rarely called to women in labour.[20]

Weszprémi saw in Debrecen that there were few midwives, and those few had not had regular training but had gained their skill through practice. He wanted to change this and so issued in 1766 in Debrecen his *Bábamesterségre tanító köny* (Textbook for the art of Midwifery). He followed Smellie in the idea of having his book illustrated (Crantz's book lacked illustrations). He borrowed the figures and diagrams from the midwifery book (1717) of Professor

[19] István Weszprémi was issued the following certificate by William Smellie, the famous London obstetrician: *"These are to certify that during the time of two Courses Mr. Stephan Weszprémi, Doctor of Physick, hath carefully attended my LECTURES on MIDWIFERY, by which he has had the opportunity of being fully instructed in all the different Operations and Branches of that Art. Witness my Hand, this 19th day of July 1755."*

[20] Siebold, E. C. J. von: *Versuch einer Geschichte der Geburtshülfe.* Berlin, 1845. Vol. II, p. 434.

of Obstetrics H. von Deventer (1615 – 1724) of the Netherlands and the surgery book (1738) by Professor of Anatomy and Surgery L. Heister of Germany (1683 – 1758). The original illustrations were copperplate engravings, but were reproduced in Weszprémi's books by wood blocks; and so, although the copies were exact replicas of the original, the different technique made for clumsier figures. Nonetheless the illustrations were eminently suitable for the writer's purpose and for instruction. The woodprints were probably made by József Endrédi, a student skilled in graphic art who studied at the College of Debrecen (he is known to have studied at the college in 1770 and to have died in 1811). Another interesting fact about the book is that this was Weszprémi's only publication which came out in Debrecen. The book was a success. A few years later it was a compulsory textbook for midwives, and on Gerhard van Swieten's recommendation Weszprémi was decorated for it by Maria Theresa.

Both his *Brief Instruction* and *Midwifery* reflect Weszprémi's studies in England and the practical experience he acquired at London hospitals, lying-in homes and inoculation houses. A more detailed study of both works would suggest how strong this influence had been.

His next work marked a departure from medical literature, but again betrayed his strong British orientation. He translated a work by Edward Wood, whose tenth edition happened to fall into his hands, from English to Hungarian. This was one of those puritanical works addressed to English farmers which represented the peasant way of life as idyllic; nonetheless even this writing suggested some knowledge of nature, the natural sciences and astronomy, and some elements of enlightenment. Weszprémi must have been motivated by didactic aims to translate this work, for he obviously wanted to give people more than a prayerbook.[21]

The translation must have been another success, for it came out in several editions. It presented for Hungarian readers the English variant of the then popular literary genre which later gave rise to idyllic rococo pastorals.

Weszprémi prepared himself deliberately and for long years to write the principal work of his life, a four-volume collection of medical biographies. When he studied abroad it was already a general custom at the European universities to present some material on medical history in lectures addressed to medical students. Probably already at that time it occurred to Weszprémi that it would be useful not only to his own country if he wrote the biographies of the better-known Hungarian and Transylvanian physicians, but would also win the admiration of foreigners that *"we can show up such a large number of medical doctors over and above other European nations..."* For this work he used the notes he prepared during his studies abroad, as well as material from his own library, the Debrecen College Library, and from the famous

[21] Translated back from the Hungarian: Little Book of the Farming Man... Written in England by Doctor Edward Wood, S. I. M... And now from the English tongue translated according to the Tenth Edition by István Weszprémi, M. D. in Pozsony, at the expense and with the type of Mihály Landerer, 1776.

Kazay collection of books and medals. He preferred to publish only material drawn from authentic sources, or seen by his own eyes. When he was compelled to use references, he sifted very carefully what to take over from whom. In connection with someone's work he points out (*Succinta*... Vol. I. p. 159): "*I did not have opportunity to see this, but Zwittinger mentions it.*" He knew that he did not have available sufficient source material, and for this reason he addressed an appeal to his readers: "*In due consideration of public interests and the interests of the educated world as a whole, we request the scholarly sons of all peoples to let us know if any of these relics are discovered somewhere on this earth.*" He not only counted on the interests of foreign readers, but in Volume III of the *Succinta*... in his dedication to Baron Störck, he presented an apology: "*...how welcome it was not only with my compatriots but also among foreigners versed in the realm of science in something my modesty forbids me to describe in detail*".

His work owed part of its success to his wide education, his knowledge of foreign languages and his friendships with scholars and scientists at home and abroad, men with whom he corresponded and from whom he obtained a lot of valuable data for his work.

The four volumes, which appeared from 1774 to 1787, are not just a collection of medical biographies, but a veritable encyclopaedia. The work mentions philosophical, theological and natural scientific problems, for the authors included in it are in the majority not merely physicians but polyhistors. Listing the works of the individual authors, it presents significant bibliographical material. In other countries there were already more differentiated works, dinstinctly medical biographies, bibliographies and medical histories. As Weszprémi was doing pioneer work in the field, he was not able to differentiate in this way. His later Hungarian critics blamed him for this alleged weakness. Fabius Sugár wrote almost a hundred years later[22] that although the *Succinta* was a very rare work, and for this reason obtainable only with great difficulty and for a good price, it had the fault that it was "*flooded with information which was not always in place.*"

Weszprémi's work was so significant partly because it proved that the bulk of Hungarian medicine was not merely an offshoot of the first and second Vienna schools of medicine, but had drawn also from other sources, and an important branch developed from the nourishment provided by English culture and English medicine. As in all his other works, here, too, there is strong evidence of his "Anglomania". He publicized the information about a great many Hungarian physicians that they visited England and studied there.[23]

[22] Sugár, Fábiusz: *Orvosok és az orvostudomány* (Physicians and Medical Science). Pest, Lampel, 1861, p. 43.

[23] Hungarian physicians who visited England, in the order listed by Weszprémi: János Bánfihunyadi, János Csuzi Cseh, András Dudith, Sámuel Köleséri, Ferenc Pápai Páriz, György Szilágyi, Máté Csanaki, István Balogh, Ézsaiás Geyger, András Ajtai, Ferenc Hunyadi, István Huszti, István Tolnai, János Vette, Ferenc Pápai Páriz, Jr.

He repated in the bibliographies again what he knew about the introduction of smallpox inoculation in England. He treated the English alchemists who visited Hungary, dealt with Isac Basire who taught at Nagyenyed, and referred to the well-known Hungarian doctors and scholars who were active in England not as physicians but in other areas, people who had won for themselves a name in the island country. He wrote about the British financial aid provided for Hungarian colleges, dealt with the popularity of Hungarian drugs and Hungarian wines across the border, and described how his beloved Professor Morris dispelled the myth spread in connection with the vines of Tokay. He cited a number of medical contributions or translations which were inspired by British influence. The framework of this paper does not permit that we go into the detailed study of these English connections, we merely wanted to call attention to the wealth of British influence in Weszprémi's *Succinta.*

In 1795 a new book was published by Weszprémi: *Magyarországi Öt Különös Elmélkedések* (Five Strange Meditations in Hungary, Pozsony). In an annotation in the appendix attached to the five essays, Weszprémi observed, similarly to the opinion already expressed in his *Succinta,* how necessary it would be to form a scientific society in Hungary, too, on the foreign model. Its existence would favour publishing and book reviews and would gain greater admiration for Hungary abroad. It can be taken practically for granted that the Royal Society of England was one of the foreign models he referred to (a Hungarian physician was also a member, János Torkos Jusztusz, since 1752), and the *Philosophical Transactions* published by the Royal Society in which some papers by Hungarian authors appeared in Weszprémi's times. He also wrote about Hungarian Holy Crown, the *aqua Reginae Hungariae,* which was probably well known in England, too, and about an old Hungarian grammar, old Hungarian coins, and finally about "*the Gold grown and trained in the Grapewines of Hungary*", where again we can find an English reference, for Michael Morris, Weszprémi's chemistry professor in England, proved with experiments in the laboratory that there was no such "Hungarian gold" of vegetable origin.

His last work *Luctus Pannoniae,* a collection of epigrams in Latin from the 16th century, was probably written in 1798, but appeared only in 1799, after his death, published by Trattner of Pest. This compilation shows also his efforts to preserve the Hungarian past. It adds special interest to the volume that it contains also two original poems from his old age, each a kind of classic swan song. Many have compared the following four lines to some of the finest verse of the Lake School of English poetry:

> "*Jam jam fata vocant, ceu cygnus concino carmen*
> *Ad vada Totzónis funeris ipse mei.*
> *Weszprémi medicus moriar, medicina valeto,*
> *Tu solus mihi fer Christe Redemptor opem.*"

In connection with Weszprémi's biography, one should certainly mention the fact that he made his acquaintance with Freemasonry probably while he way still in England, for there masonic lodges operated already as early

as 1717. He made no mention of this fact in his Diary. He was probably introduced to the movement by van Swieten, one of the leading figures of Freemasonry in Vienna. His correspondence indicates such contacts from 1760 on: *"Vale et res tuas feliciter age et ego te semper amabo..."* We know that Freemasonry was popular in the 1770 to 1780's in the intellectual circles of Debrecen and in Weszprémi's environment, too, for his house was an intellectual centre visited by such outstanding figures of Hungarian cultural history as János Földi, who became his son in law; Mihály Fazekas, Mihály Csokonai and Ferenc Kazinczy, the poets.

With Weszprémi's death one of the great Hungarian personalities of the 18th century departed. He left his memory to posterity only in his works, for both his portrait and tomb are unknown. Although he was a scholarly physician well-known and admired both at home and abroad even during his lifetime, and the information he collected served as a basis for further work along the same lines, and although beginning with the second half of the 19th century the positivist trend of philosophy, having corrected his smaller errors and contributing new data to his research, preserved his lifework for the 20th century, nonetheless Weszprémi received the appreciation he would have deserved already in his life only in the present century. Even though Maria Theresa decorated him, a foreign scientific society elected him into its membership, though he was a distinguished citizen of Debrecen and his name had a familiar ring for doctors abroad as well as in Hungary, the political and social conditions of the times did not make it possible that his talent and knowledge become more widely known. Although a medical faculty existed at the University of Nagyszombat from 1769 on, as this was an institution endowed by the Catholic Church it could not offer a professorship to the Protestant Weszprémi.

From his homeland he received genuine recognition only in the present century. In 1939 the valuable, then 60,000-volume library of the Medical Faculty of the University of Budapest was named after him.

In this century such Hungarian medical historians as Tibor Győry, Gyula Magyary-Kossa, György Elekes, and András Daday have made his life and activities a subject of research, and regularly publish their results.

The Medical and Pharmaceutical Historians' Professional Group, the antacedent to the Hungarian Society for Medical History, founded the István Weszprémi Memorial Medal in 1958. It is distributed annually among the medical historians who have made outstanding contributions, marks an important step in giving Weszprémi his due. The medal is of metal, 7.5 cm in diameter, and the observe bears the legend: *"In memoriam Stephani Weszprémi Societas Medico Pharmaceutico Historica MCMLVIII"* and the reverse has on it an inscription which reads *"Pro meritis in scrutanda Historica Medica"* with the addition of the name of the person to whom the award of the medal is to be made.

The Semmelweis Museum of Medical History and its Library undertook the project of translating and publishing Weszprémi's *Succinta*, a rare print

that is barely available today, in its series of "Books of Medical History". The four volumes were published in a bilingual translation between 1960 and 1971. It is a mark of the success of the publication that the first volumes have already sold out.

The aim of the present paper is to invite interest and attention for Weszprémi's life and work beyond the borders of his homeland, and, by spotlighting his connections with Britain, to stimulate local research on his life and work in England.

THE SPREADING OF JENNER'S VACCINATION IN HUNGARY

by ILDIKÓ FRIEDRICH

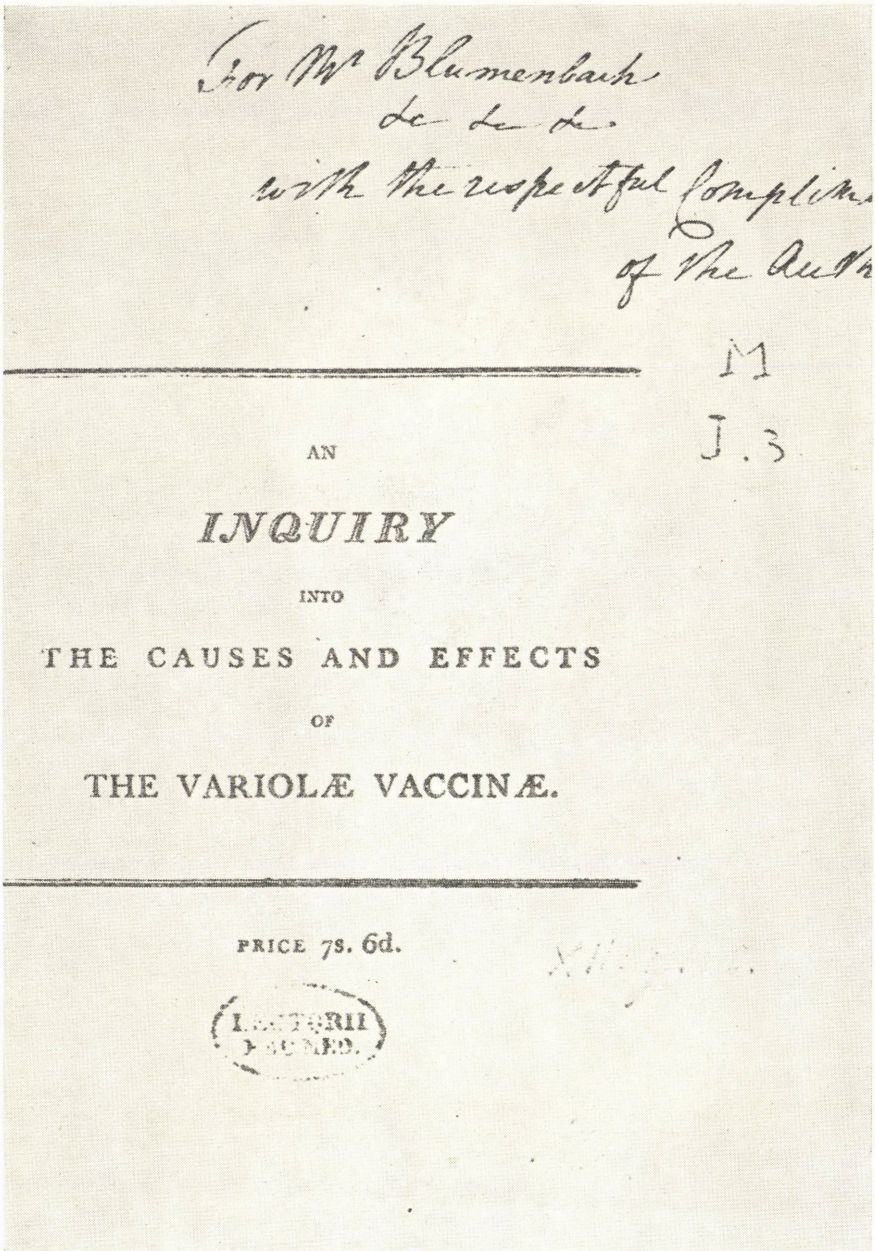
The "antidote" to variola has been known nearly for two-hundred years—nevertheless it levied its victims in Europe not only at the end of the last century, but still after the turn of the century as well. In the 16—17th centuries generally 10 per cent of the deaths were caused by variola. In the 18th century there was not a single country in Europe where it was not known —300—400 thousand people became the victimes of small-pox every year.[1] The Austrian Emperor and Hungarian King, Joseph I, too, died of variola. In 1711 and in 1767 Maria Theresa got ill too, but she was fortunate enough to survive the epidemic. But even Louis XV, the French king could not be saved by his doctors; he became the victim of small-pox in 1774.
Variola terrorized all strata of society for centuries.

In Hungary it first occured in 1575,[2] and it caused a serious public health problem during the centuries, as there was hardly a man to be found who had not been variolous once in his life. The physician Mihály Kováts (1762—1851) wrote in 1822: *"In Hungary and in Transylvania variola killed 42,000 people with the most cruel torments and in these countries there was 350,000 people variolous every year."*[3]

The number of victims in an epidemic went beyond even the massacre of the plague. Medicative man had already become master of the plague but *"he did not know any other drug except the bitter tears for men who groaned under the yoke of variola."*[4]

Though in the 18th century a kind of cure became well-known—originating from Asia—namely the vaccination of the natural vaccine (variolization), and it really eased the course of the illness, but out of thousand variolated persons

[1] Székely, Ágoston: A himlőoltás fölfedezésének százados évfordulója. (The Centenary of the Vaccination Discovery). *Term. Tud. Közl.* 1896. Vol. 28. p. 359.
[2] Bericht von der ungarischen Krankheit, Blatter und Rhur. Codex Linzbauer. Quoted by: Patrubány, Gergely: A védtehénhimlő ojtás közegészségügyi és gyógytani értéke (The Public Health and Medical Value of Vaccination by cow-pox). *Gyógyászat,* 1862. No. 17. p. 348.
[3] Kováts, Mihály: *Értekezés a himlő kiirtásról. Lelkitanítók számokra* (Dissertation on the Extirpation of Variola. For Spiritual Teachers). Pest, 1822. p. 30.
[4] Váradi, Sámuel: *A tehén himlő avagy a vaktzina természetének és terjesztése módjainak rövid előadása* (A Short Lecture on the Nature of Cow-pox or Vaccine and on the ways of its Spreading.) Bécs, 1802, p. 2.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The dedicated front-page of Jenner's work

there were 74 – 95 who died[5] and the formers infected the others living around them, that is to say, vaccinations were closely followed by epidemics. Debates soon flared up in connection with variolation, but as there was not any other more reliable mode of defence, the above mentioned cure was used by the doctors. Besides, the "Ten Commandments" against contagious diseases were well-known from the 16th century, namely those basic rules which were created aiming at the prevention of epidemics. *"Every man, in whose house there is a variolous, should write on his door: Here is small-pox poison"*—sug-

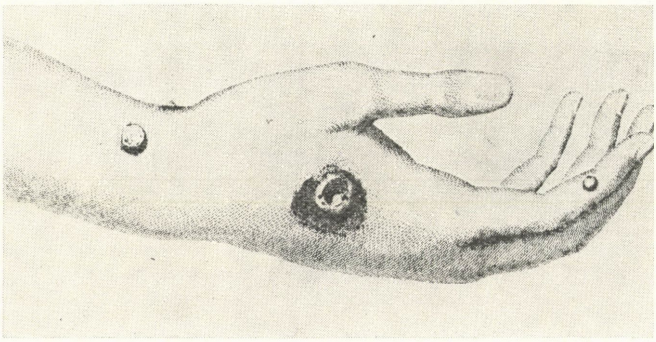


Illustration from Jenner's book: A milk-maid's hand, infected by smallpox

gested Ferenc Bene, one of the pioneers of vaccination in Hungary.[6] He called the attention of the nurses to the frequent washing of their hands, changing of their clothes and to their getting into touch with other people as rarely as they could. The ill person must not touch any money, book, letter and must not go by any means to church, to school or even to the street. The person, who died of variola should not be put into a coffin, because even the lifeless body can infect.

At that time the name of Jenner was already well-known not only in the British Isles, but on the Continent, too.[7] Today the essence of his invention seems to be simple and self-evident to everybody, but it took almost a whole century for the doctors and non-professionals until they acknowledged his achievements. With his researches *"he laid the foundation of immunology, as we can deduce two basic principles from it. One of them is the variability and mutability of the virulence of the infecting material and the other one is that an infecting*

[5] Patrubány, Gergely: A védtehénhimlő-ojtás közegészségi és gyógytani értéke (The Public Health and Medical Value of Vaccination by cow-pox). *Gyógyászat*, 1862. No. 17. p. 348.

[6] Bene, Ferenc: *A himlő veszedelmei ellen való oktatás* (Teaching Against the Dangers of Variola). Pest, 1800. p. 65.

[7] *Die Geschichte der Impfung und Vakzination.* Andenken an den Internationalen Aerztekongress London 1913. London, New York, Montreal, p. XX.

material of lower effect can give protection for the organism against the influence of an infecting material of greater effect."[8] Semmelweis, Pasteur, Roux and Yersin, Robert Koch, András Hőgyes, Calmette, Behring and Ramon were working on the principles laid down by Jenner and reached excellent results in fighting down other epidemics.[9] The practical result of Jenner's discovery is that as a consequence of vaccination the danger of infection came to an end, in other words in those countries where vaccination was made compulsory, variola ceased to exist.

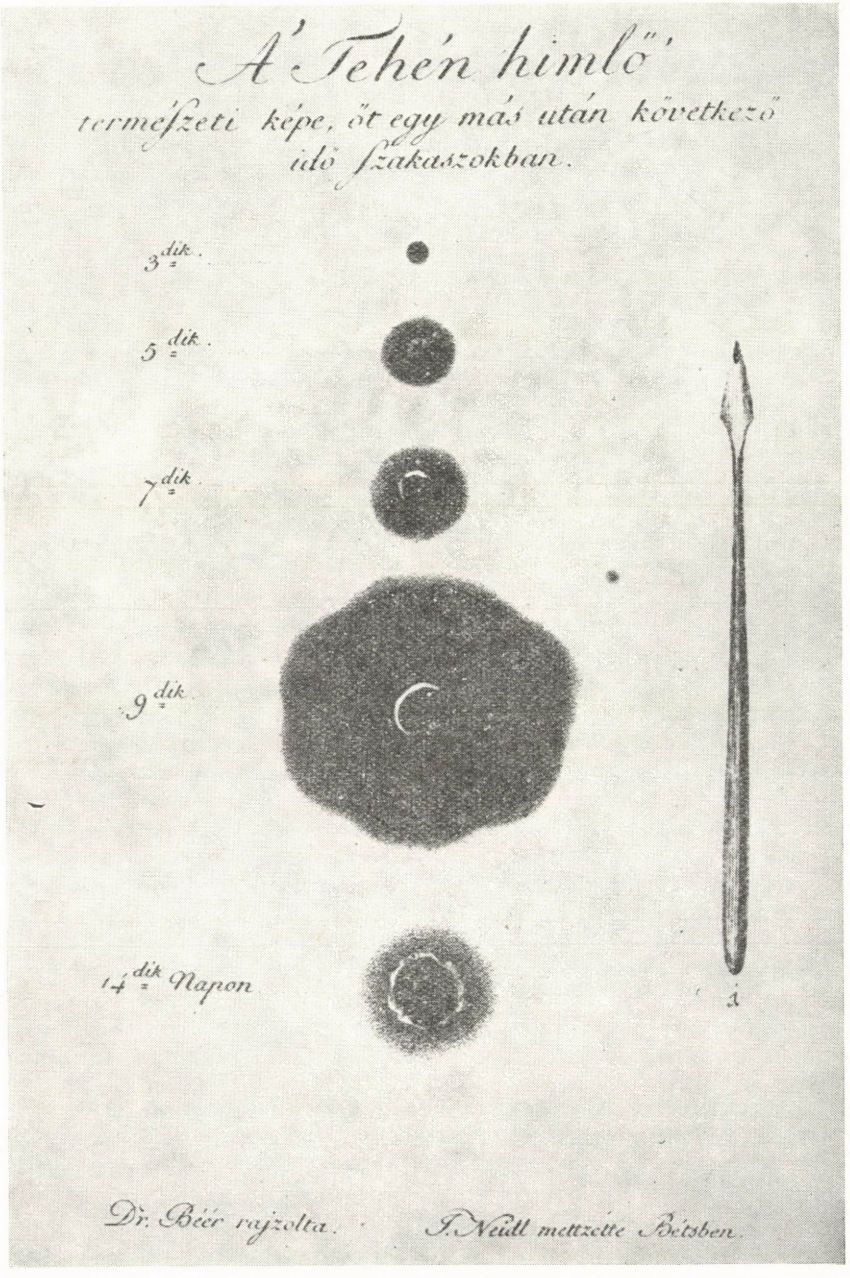
THE HUNGARIAN PHYSICIANS' OPINION

The name of Jenner and his vaccination became well-known very soon both in Hungary and in Transylvania. Vaccinations are alleged to have been started already in 1799, but it is not known who practiced it first.[10] Until the year 1801 more than a thousand people were vaccinated and this number increased year by year.

The greater part of the Hungarian physicians declared in flattering terms of vaccination. Sámuel Váradi (1773 – 1857), who studied medicine in Vienna and later practiced in Transylvania, having read the work of Jenner and later de Carro's on the "divine invention", had himself vaccinated by Careno on 30th May 1801. "*Dr. Careno, inflicting four stings on my arm, vaccinated the cow-pox into me. The material was taken from the nine day old variola of a child.*"[11] The vaccine had taken in due order and Careno made a "control" vaccination with blistery variola on 13th November, but the organism proved to be immune.

Ferenc Nyulas (1758 – 1806) the chief medical officer of Transylvania called vaccinia as a "seraphical serum". Its protective power had been known by the peasants of Transylvania: at certain parts of the country the children were washed with the milk of variolous cow in order to save them from blistery variola. "*England can boast to Transylvania with this invention only because there it struck the doctors' eyes whereas at us it did not;...*"[12] What a pity that the credit does not belong to us—arose the innocent patriotic thought in the chief physician's mind, which was only another way of expressing his appreciation.

[8] Fritz, Sándor: A himlőoltás mai jelentősége (The Importance of Vaccination Today). *Népeg. ügy.* 1950. No. 5. p. 300.
[9] Ibid. p. 301.
[10] Böjty, János: De variola vaccina. Buda, 1836. Quoted by: Gortvay, György: A himlőoltás magyar története (The Hungarian History of Vaccination). *Népeg. ügy,* 1950. No. 12. p. 677.
[11] Váradi, Sámuel: *A tehénhimlő avagy a vaktzina természetének és terjesztése módjainak rövid elő adása* (A Short Lecture on the Nature of Cow-pox or Vaccine and on the ways of Its Spreading). Bécs, 1802. p. 219.
[12] Nyulas, Ferenc: *Kolosvári tehén himlő* (Vaccinia of Kolosvár). Kolozsvár, 1802. p. 7.



The different stages of smallpox pustules. Engraving from the book of S. Váradi

Ferenc Bene (1775—1858), an internist professor, suggested variolation against epidemics in his first book on variola.[13] His second book appeared in 1802, in which he welcomed Jenner's "immortal" invention and mentioned physicians such as Woodville, Pearson, Simons, Fermor, Loy, Aiking, Thornton etc., who vaccinated apart from Jenner and wrote about vaccination. According to Bene vaccination was not only the great invention of the previous century, "but it was the most magnificent experience since the birth of medical science.[14]

Jenner's hypothesis on the immunizing effect of the weaker virus against an infection of greater effect was proved by several experiments. Within a few years smallpox variolation was supplanted from European medical practice and its place was taken by prevention by a virus of smaller effect, notably vaccinia. In 1802 in Italy, in 1803 in Austria and Hungary and in 1802—1806 in the various German states variolation was prohibited. The English Parliament, after a long fight with the antivaccinators ordered the suppressing of variolation in 1840, later than most other countries.[15]

THE PIONEERS OF VACCINATION IN HUNGARY

"It is pleasing to say that in Hungary the medical profession recognized the public sanitational importance of Jenner's preventive vaccination at once... not waiting for encouragement from above they began vaccination with a great zeal as instantly as they took notice of it from the first scientific publications."[16]

The introduction of vaccination in Hungary is attributed to Ferenc Bene both by general opinion at home and by foreign literature.[17] The famous physician really did a lot for spreading Jenner's vaccination. He was the first who perfomed vaccination in public in Pest on 27th August 1801. He received the vaccina from de Carro. The *Magyar Kurrir* (The Hungarian Courier) published in Vienna, gave an account of the event. By the end of the year Bene vaccinated 183 children. During this time he helped other physicians to get acquainted with the technique of vaccination and called the attention of the *Consilium locumtenentiale* to pay the doctors properly who had taken part in the mass vaccination. He knew that one of the essential conditions of the large-scale spreading of the inoculations is to make the concept of vaccination clear for the public. With the aim of enlightening he wrote a book which was published in 1802: "Short Teaching on the Origin, Nature and Inoculation

[13] Bene, Ferenc: *Rövid oktatás a mentőhimlőről* (Short Teaching About Protective Variola) Buda, 1816. 2nd ed. Preface p. IV.

[14] Bene, Ferenc: *A himlő veszedelmei ellen való oktatás* (Teaching Against the Dangers of Variola). Pest, 1800. p. 74.

[15] Hőgyes, Endre: Jenner és a védoltások tana (Jenner and the Doctrine of Vaccination). *O. H.* 1896. No. 39. p. 466—470.

[16] Gortvay, György: A himlőoltás magyar története (The Hungarian History of Vaccination). *Népeg. ügy.* 1950. No. 12. p. 677.

[17] *Biographisches Lexikon der Hervorragenden Aerzte aller Zeiten und Völker.* Wien—Leipzig, 1884. p. 388.

of Protective-Smallpox". In his book he mentioned the name of seventeen Pest-Buda and twenty-six country doctors, who had performed Jenner's vaccination already before 1802. At Pest University Bene was the first who lectured on vaccination it the academic year 1803/04.

After Bene János Streit, the medical officer of Buda, vaccinated publicly in September 1801 and in October Mihály Lenhossék (1773—1840), the chief medical officer of Esztergom (later chief medical officer of Hungary), who had already vaccinated more than 600 persons.[18]

Mention should be made of Zsigmond Riegler, the chief medical officer of the county Békés, who got acquainted with the principles and the technical questions of vaccination in Pest, then returned to his county in January 1801 and started practicing it, while also teaching it to the other doctors and sugeons. In order to bring the case of vaccination to success he visited the clergymen and principals of the villages and the landlords of the county and asked for their help and support.

Beside the above mentioned persons József Csehszombati, a doctor of great knowledge practising in Pest, and medical officers János Hell in Sopron county, József Csorba in Somogy, Imre Sándor in Bihar, György Marikovszky in Gömör; and Zakariás Huszty, chief medical officer of the town of Pozsony performed free inoculations. The latter was the author of the first official instruction for doctors and surgeons in connection with the procedure of vaccination in 1801.[19]

In Transylvania the priority belongs to József Szotyory (1766—1833). His first vaccination took place in Marosvásárhely and he worked a lot in order to put an end to epidemics. "I was the first in Transylvania who took troubles to further spreading and maintenance of vaccination and who carried out vaccination luckily—on 14th September 1801 for the first time"[20], he wrote in the first scientific medical review, *Orvosi Tár* (Medical Collection)

THE PRACTICAL PROBLEMS OF VACCINATION

Jenner's vaccination soon became known in all civilized countries. With its spreading the frequencity and destructive power of epidemics decreased proportionally. Vaccination improved in the course of practicing it thousand and thousand times, as man was supplied by better and better tools, the results of practice and necessity.

A book, published in 1802, enumerated four kinds of vaccinations. One

[18] Gortvay, György: *Az újabbkori magyar orvosi művelődés és egészségügy története* (The History of Modern Medical Culture and Public Health in Hungary) Vol. 1. Bp. 1953. p. 14.

[19] Gortvay, György: A himlőoltás magyar története. (The Hungarian History of Vaccination). *Népeg. ügy.* 1950. No. 12. p. 677.

[20] Szotyory, József: Valódi himlők, védhimlők után (Real Variola After Protecting Variola). *O. T.* 1831. Second Term, Fourth Book, p. 48.

of them was made by thread, the other by lancet covered with fresh vaccinal material, the third with fresh material and finally there was the method of Osiander, the doctor of Göttingen, who used blistering plaster.[21]

In fact the first three methods were different from each other only in their way of storing the material: the variola limph was kept either on thread or on vaccination lancet made of silver ivory, and the thread or the lancet with variola on it diluted by water was put in a scratch made either on the thigh or on the arm. Inoculation performed by thread did not take easily, therefore, one had to make scratchings at four different places and even this often proved to be unreliable as the thread fell out from the abrasion not infrequently. The vaccination lancet was introduced instead of the former method.

They tried to avoid the storing and transporting of the material as the inoculation with fresh vaccina seemed to be more secure when the vaccina, taken from an other person's variola pustula, was vaccinated directly into another person. This so-called arm to arm vaccination led to violent debates and became the main point of attack of the antivaccinators later on.

Finally there was still the method of Osiander. He put a vesicant on one's arm, opened the arising blister and put the material under the skin. It still belonged to the course of action that twenty-four hours ater the vaccination the arm had to be washed with warm milk and "pomade". De Carro discarded this method as in his opinion the moisture of the blister was neutralizing the effect of the vaccine. Neither was Sámuel Váradi the follower of this method because—as he wrote in his book—the "operation" was more painful and it required a lot of care and besides it was too lengthy: it took twenty a thirty days while an inoculation took an effect and healed up.

The quality of vaccine and its storing caused a lot of problems, too, and among them we can find some which one living among modern sanitary conditions and being spoilt by technics already laughs at.

Ferenc Bene, too, dwelt on the necessity of the quality of vaccine in his book on Jenner's vaccination. Further vaccination with variola poison which had been vaccinated into the man was already a superior method. First the material was taken either directly from the udder of a cow, or from the abscess on the hoofs of horses, or sometimes from variolous sheep. In the case of arm to arm vaccination, writes Bene, one has to take care that the further inoculation of the moisture must take place on the sixth, seventh, or eighth day after vaccination. The material taken after the tenth day is already unsuitable for vaccination, it will not take effect or it will cause sucker-variola which does not save one from small-pox. The older the vaccine is, the more uncertain the result of vaccination is.

As the debates did not die down even in medical circles, one can understand the thousand uncertainties, fears, misgivings of non-professionals.

[21] Váradi, Sámuel: *A tehén himlő avagy a vaktzina természetének és terjesztése módjainak rövid elő adása* (A Short Lecture on the Nature of Cow-pox and on the Modes of Its Spreading) Bécs, 1802. p. 52—72.

There were patients who did not trust the effect of the material taken from the arm of a vaccinated person of conversely, they were worrying that the vaccine of a physically weak, sickly child was vaccinated into their sons.

As a result various demands were raised, e.g. certain people wanted their children and themselves to be vaccinated only by moisture taken directly from the udder of a Gloucester cow as they felt only that to be confirmed and proper. The author who mentions these misconceptions in his book wanted to dissipate them by suitable explanation: *"Vaccinia does not lose any of its effect by inoculating it from one person into the other."*[22] And at the same time he sermonised those who by speaking about Gloucester cows only manifest their lacking knowledge. Medical opinion agreed that it was essential to follow the inoculation closely during its various stages, to see whether it had taken or not, and in case of want of success the vaccination had to be repeated. Sometimes even physicians could not decide whether their works were successful or not; consequently it was impossible to expect this important decision from peasant parents. A physician, Mihály Kováts, suggested to ask the clergymen, the village notaries or the teachers to help to examine the vaccination. He wrote a book for them,[23] in which we can find the picture of inoculated vaccine in its early stage and in the final one.

Either the end of spring, or the beginning of autumn was considered as the most suitable period for vaccination, as these were the periods generally immune from epidemics.

According to the greatest majority of the doctors it was important to vaccinate every child in his infancy. Ferenc Bene suggested the age of three or four months while Váradi's opinion was to vaccinate before the child completes his third year, though as he wrote, parents *"are happier to let the baby fall victim of blistery variola than to see it inoculated with it before the age of three."*[24] His statistical figures show that the most dangerous period is the first and second year of a child and most of the deaths caused by variola fall to this period.

SHALL TEACHERS, PRIESTS AND MIDWIVES VACCINATE?

The news of vaccination reached even the smallest villages. Orders were passed prescribing inoculation and the errand-boys who were entering their services had to produce papers proving that they had been vaccinated. Clergymen in the villages received instructions to preach the necessity and usefulness of vaccination from the pulpits. Worried parents hoped to be able to save

[22] Ibid. p. 163—163.

[23] Kováts, Mihály: *Értekezés a himlő kiirtásról. Lelkitanítók számokra* (Dissertation on the Extirpation of Variola. For Spiritual Teachers). Pest, 1822. p. 39.

[24] Váradi, Sámuel: *A tehénhimlő avagy a vaktzina természetének és terjesztése módjainak rövid előadása* (A Short Lecture on the Nature of Cow-pox or Vaccine and on the ways of Its Spreading). Bécs, 1802. p. 138.

their children either from death or from the life-long blindness or deafness caused by variola.

A trained doctor was, however, mostly the privilege of the towns, and the illness of the countryman was generally cured by barbers, midwives or by medicine women.

In this way the science of vaccination fell into profane hands, though many of them were turned "doctors" either by the wish to help or by necessity.

And there was a pretty number of those who took up the lancet only because of the hope of financial profit. Bene spoke up against these charlatans' manipulations: *"we should appreciate befittingly the most beautiful invention of the last century and do not let it be stripped of its grandness and usefulness by the squalid hands of ignorant people. Let us entrust it only to those men who are spending their days in examining the healthy and ill human nature; who are looking for their happiness in keeping up their human fellows..."*[25] According to his opinion only the doctor or the "clever Barber" may inoculate and the spreading of variola can be checked only by their work.

After some decades János Strébely, surgeon and obstetrician was protesting even against the collaboration of the barbers saying that the *"task of a barber is cutting the beard and the task of a legitimate doctor and surgeon is protecting life."*[26]

It was at the beginning of the 19th century, too, that a contemporary of Bene, the above mentioned Ferenc Nyulas, chief medical officer of Transylvania, put his conception to paper. He thought that learned people—priests, schoolmasters and cantors—or everybody being clever with his hands could learn to inoculate and by this the doctors' privilege could be eliminated. The outspoken protomedicus did not spare his colleagues and in his opinion money-mindedness was the only obstacle in the way of life-saving vaccination: *"Profit is the only cause of the doctors' readiness and where it is absent there the sinew of the doctor will fail. Most peasant will rather give their children to death thatn to pay the doctor, even whose name they do not like; well, who will extirpate blistery variola among them?"*[27] And when free inoculation will be prescribed by law—he adds—surely every Aesculap will endorse his suggestion.

The idea of the chief physician of Transylvania with which he wanted to solve the public health problem of the village poor—did not come true. At the price of a lot of fights vaccination was carried to victory by the doctors, snatching it from the good-intentioned or less good-intentioned hands of the incompetent.

[25] Bene, Ferenc: *Rövid oktatás a mentő himlőről* (Short Teaching About Protective Variola). Buda, 1816. 2nd ed. p. 40.

[26] Srébely, János: Észrevételek a himlőoltás miként lehető jobb elrendezéséről (Remarks About the Best Arrangement of Vaccination). *O. T.* 1841. VIIth Term, No. 19. p. 292.

[27] Nyulas, Ferenc: *Kolosvári tehén himlő* (Cow-pox in Kolosvár). Kolozsvár, 1802. p. 29.

OFFICIAL ORDERS IN THE CAUSE OF VACCINATION

Laws which solved the public health problem caused by variola were passed only at the end of the 19th century, but the fight for such measures had started already at the beginning of the century.

Among the first vaccinators we have mentioned Zakariás Huszty (1754 – 1803), who started vaccination in the town of Pozsony in 1801. It was he who first conceived the idea that for the spreading and satisfactory cultivation of vaccination regulations are needed—anticipating the *Consilium locumtenentiale* and supported by the Pozsony town council—issued official orders for physicians and surgeons about the methods to be used in the case of vaccination.

Arrangement on a national level is connected with the name of protomedicus Ferenc Schraud (1761 – 1806), who worked out the most important basic rules. On 13th March 1804 order No. 5524 of the *Consilium locumtenentiale* came into being which contained these basic rules: first of all it entrusted six towns with the storing of vaccine: Gyula, Zagreb, Kassa, Pozsony, Pest and Buda. The vaccinators were ordered to receive proper training. Care was taken that the vaccination for which permission was granted by the county physician, had to take place in the towns (in the county seats) in front of the deputy lieutenant, the judges of the County Court, the County Court, the local clergyman and all the other principals. The vaccinator was obliged to give an account of his work to the county physician as the latter and the protomedicus were responsible for the cause of vaccination. It was decided that all officials had to help the doctor in his work, and the enlightenment of the public was included in this task performed by the help of distributing books and other publications. Besides the clergymen were called upon to propagate the advantages of vaccination from the pulpit.

In 1813 a royal decree placed vaccination under the control of the *Consilium locumtenentiale* and the protomedicus became its highest official. Vaccination was made obligatory in the whole country. The order of protomedicus András Pfisterer (1759 – 1824), included vaccination among the tasks of official physicians and he took care of the fee of the vaccinators. For those who worked in the villages five farthings (garas) were paid out of public funds after every vaccinated peasant child, but in Transylvania day's wages were given: twenty-five farthings for the doctors and twelve for the barbers.[28] Since 1814 the so-called vaccination found was introduced which consisted of the tenpences (10 *krajcár*), paid by couples intending to marry; the vaccinators were feed from this money.[29]

The cause of vaccination was recognised by the medical officer of the town of Esztergom, Mihály Lenhossék, who became the protomedicus later on.

[28] Kováts, Mihály: *Értekezés a himlő kiirtásáról.* Lelkitanítók számára (Dissertation on the Extirpation of Variola. For Spiritual Teachers). Pest, 1882. p. 24.

[29] Gortvay, György: *Az újabbkori magyar orvosi művelődés és egészségügy története* (The History of Modern Medical Culture and Public Health in Hungary). Vol. I. Bp. 1953. p. 16.

He published his ideas in his regulation: *Summa praeceptorum in administrando variolae vaccinae negotio per Regnum Hungariae observandum* in 1829.[30]

In spite of the careful, all embracing regulations the number of inoculations decreased, especially in villages, in the 1820's and as a result of this the number of illnesses increased. "...*The cause of vaccination is very well and advantageously arranged in our country, only one wish has remained, that these beneficial regulations should be observed and we would not have to hear that in spite of vaccinations in this or that county the epidemic was raging once more.*"[31]

Superstitious prejudies and misbelies originating from ignorance, greatly contributed to the obstacles in the way of the spreading of vaccination in a satisfactory manner.

In the chaos of ignorance quite often only strict laws are able to create order.

"THE PREJUDICES OF THE BLURRED MINDS"

Among the first vaccinators we could find Zsigmond Riegler, the chief physician of Békés County who did his best for fighting down the epidemic raging in his county in 1801. Within a half year he vaccinated 1204 children. At eleven places, where he could vaccinate without any obstacles, there were only 64 victimes of the epidemic, but in the other nine villages where the greater majority of the people put up stubborn resistance due to their superstitions, 579 people died.[32]

Some doctors tried to fight the problem with the weapon of the printed word. The literature of vaccination was enriched by another "genre", enlightening literature written for the common people in their mothertongue, which wanted to make a clean sweep of not only sanitational ignorance but it undertook the task of spiritual education, as well.

What kind of unquestioning faith, what kind of century-old fanatism and new incomprehension assured the victory of death and made the doctors' work more difficult?

The public with its primitive religious feelings condemned the work of the physician, saying that the person who wants to cure, interferes with the work of God. Wise Providence has given humanity men to find remedies for the illnesses and those who do not take this possibility become murderers or themselves or their fellow-men, answered Sándor Márkus in his little book[33] and

[30] Gortvay, György: A himlőoltás magyar története (The Hungarian History of Vaccination). *Népeg. ügy.* 1950. No. 12. p. 678.

[31] Rakitta, Alajos: *A himlőoltás története Magyarországban* (The History of Vaccination in Hungary). Pest, 1846. p. 15.

[32] Rakitta, Alajos: *A himlőoltás története Magyarországban* (The History of Vaccination in Hungary). Pest, 1846. p. 9.; Hainiss, Géza: A vaccinatio fejlődése Magyarországon (The Development of Vaccination in Hungary). *O. H.* 1896. No. 39. p. 479.

[33] Márkus, Sándor: *A tehén himlőoltás felől uralkodó előítéletek megtzáfolását magyar nyelven kiadta...* (Disaproving of the Prejudices Against Smallpox Vaccination, edited in Hungarian by...). Nagyvárad, 1811.

for the sake of emphasis he quoted the Holy scriptures: *"Respect the doctor remembering need."*

With patience, cleverness, the prophetic anger of a good teacher and with the physician's helpfulness he refuted the prejudices one by one. *"By inoculating vaccine we violate nature."*[34] And is it not a fiolent intervention when somebody has himself bleeded, cupped, uses vomitives or vesicants? *"My Grandfather and my Parents, my Wife, myself and other many thousands luckily survived the natural variola, consequently my children could overcome it luckily as well..."*[35]

Many millions of people could not become fathers and grandfathers because they had died in their childhood by variola, answered Márkus. In 1808 three hundred and twenty-eight children died whose fathers and mothers had overcome variola!

The opinion that *"variola served to keep up the health"* and it was necessary to remove the variola poison from the body was opposed by Bene already in his first book. *"There is no variola poison in us, only inclination and possibility for contracting it"*, explained Márkus.[36]

For many people it was incomprehensible how one or two pustules, occuring after vaccination, can save men from epidemics till the end of their lives. Jenner's opinion that a single vaccination makes one immune for his whole life, was still shared by everybody at the beginning of the century. In 1830's doctors cam to realize in Hungary that the defence-power of vaccination became weaker after a certain period and the danger of contracting the disease could exist with inoculated persons, too. The idea of revaccination resurrected the waves of doubts and uncertainties.

The use of vaccine gaine from animals for the cure of human beings was followed by uncomprehending twisting of heads: *"...who knows whether the children will not get the diseases of oxen and cows?"*[37] In 1801 an epidemic of variola was successfully brought under control in Kolozsvár and it devastated only in the outskirts of the town where the parents did not let their children vaccinated saying: *"who has seen increasing the miseries of man with the illness of the cattle!"*[38] The denial was convincing and witty again: *"...you are fed by the meat of these cattles, by their fat, blood and milk without any indignation and you are not afraid of becoming oxen or cows and you are worried even less to contract their diseases."*[39]

Later on physicians were often complaining that in the lower strata of the population medical science fails. In the 1840's articles appeared on this subject

[34] Ibid. p. 11.
[35] Ibid. p. 12.
[36] Ibid. p. 16.
[37] Ibid. p. 30.
[38] Nyulas, Ferenc: *Kolosvári tehén himlő* (Cow-pox in Kolosvár). Kolozsvár, 1802. p. 14.
[39] Márkus, Sándor: *A tehén himlőoltás felől uralkodó előítéletek megtzáfolását magyar nyelven kiadta...* (Disproving of the Prejudices Against Smallpox Vaccination, edited in Hungarian by...). Nagyvárad, 1811. p. 30.

in the columns of the Hungarian medical periodical *Orvosi Tár* (Medical Collection). Many times the country folk could be induced to take their children to the vaccination only by threats and force. Another article disapproved that parents and children were driven to the place of vaccination by armed men and village drummers. *"The days of tutelage are gone and one must not shower benefactions upon a free person against his vill; he must be convinced about the use and success of vaccination and he must be properly educated..."*[40]

They tried to make education and enlightening efficient partly by writing and partly by the power of the spoken word.

THE VEHICLES OF INFORMATION AND INSTRUCTION

At the beginning of the previous century the book was the most frequent form of the literature dealing with variola. This literature was very rich in Hungary; the medical practitioners worked for wiping out variola not only by the lancet but by the help of the printed word as well.

These early publications were written mainly in Hungarian and their aim was first of all the enlightenment of the public. At the same time they served professional information, too, as there was no specialist periodical at that time. Its true that the book serves the demands of those who want to get informations much slower, but in spite of this its role is indisputable at the beginning of the century.

The formation of the Hungarian scientific professional language falls to the same period, and it was marked by a "rustic style", uncertain orthography and the changeover from Latin and German to Hungarian nomenclature.

At the first time books were considered as the best instruments for fighting down the obstacles in the way of vaccination by the official organs, too. The book by Bene on Jenner's vaccination, which ran into several editions, was translated into Slovak, Croat and Rumanian, into the languages of the nationalities, by the *Consilium locumtenentiale* and its distribution was pressed at every part of the country. The book of József Szathmári, chief medical officer of Borsod county entitled *"Short Treatise on the Vaccination of Variola Mostly for the Instruction of the Public"* was propagated in several languages by the authorities.

In Transylvania we can conclude to the lack of central arrangements by the fact that the protomedicus, Ferenc Nyulas, who had written about his experiences of variola vaccination and on the epidemic in the town of Kolozsvár, had to have it printed privately—like Jenner—in 1802 and sent it himself to the physicians and surgeons of Transylvania.

[40] Észrevételek az orvoskar javaslata ügyében. Több megyei főorvosoktól (Remarks on the Suggestion of the Medical Profession. By Numerious County Physicians). *O. T.* 1848. Vol. I. No. 20. p. 309.

Here we would like to mention the story of an English copy of Jenner's first book, published in 1798. The book followed an interesting course. Jenner sent the dedicated copy to Blumenbach, the famous teacher at Göttingen. (The misprints were corrected in the book by himself.) Later on the book got into the possession of Bene who bought it perhaps at a secondhand auction. After the death of Bene the valuable book went into the possession of the library of the Pest medical faculty, where it is still kept. Endre Hőgyes, the excellent Hungarian bacteriologist, wrote about it for the first time on the occasion of the hundredth anniversary of the invention of vaccination.[41]

The usefulness of vaccination was propagated by the contemporary papers, too. The paper published in Vienna in Hungarian, *Magyar Kurir* (Hungarian Courier) gave an account of the first book of Bene which had still propagated variolation and the same article reported that the first public inoculation took place in Pest in August 1801.[42]

There was another way for exchanging opinions and experiences in writing: correspondence.

At the end of the 18th century or even at the beginning of the 1800's correspondence became the main vehicle of communication because of the adverse pressconditions, the watchfully guarding censorship and the political power aiming to direct and oppress cultural life.

In the groves of science the situation was the same. "*A whole flow of reactionary orders and instructions tried to paralise free thinking and all these were crowned by the actions of cowardy or overzealous censors. In this atmosphere a medical book might be suppressed even because it mentioned the bad state of the roads in Carinthia.*"[43]

Due to such restrictions in intellectual life not only in literature but in scientific life as well the exchange of thoughts in private letters became usual.

The above mentioned book of Sándor Váradi on small-pox is made more interesting by the letters which the author exchanged with his friends and colleagues on the subject of vaccination.

A Transylvanian nobleman, Elek Szentpáli, to whom Váradi dedicated his book from Vienna where he studied, wrote:

"*Sir, My Dear Friend,*
Cow-pox has a great deal of popularity here. All well-read and sensible parents did not question the truth of Jenner's invention and the foreign examples. They had their children inoculated by the blessed vaccinia. Their worthy example drew the greatest majority of the community after them. We may hope that within

[41] Hőgyes, Endre: Jenner és a védoltások tana (Jenner and the Doctrine of Vaccination). *O. H.* 1896. No. 39. p. 466—470.
[42] Vita, Zsigmond: Adatok a hazai himlőellenes védőoltás elterjedéséhez (Contributions to the Spreading of Vaccination in Transylvania). *Communicationes ex Bibliotheca Historiae Medicae Hungarica* 1962. No. 24. p. 178.
[43] *A magyar irodalom története 1772—1849-ig.* Főszerk. Sőtér, István. (History of Hungarian Literature from 1772 to 1849 Ed. by Sőtér, István). Bp. 1965. Vol. III. p. 194.

a short time the vaccination of variola will be a common thing in the country of Transylvania... Be sure that I will not forget even in the future to requit your kind informations."[44]

József Szotyori, who was the first vaccinator in Transylvania wrote the following from Marosvásárhely to Vienna in 1802: *"The fact that Counts Lajos Teleki and Sámuel Bethlen, Barons Bálinti and Szentkereszti together with the Professors had their not yet variolous children inoculated with the small pox, gave a great reputation to vaccinia in our neighbourhood."*[45] Another doctor of medicine in Transylvania discloses that doctors sent material for vaccinations and vaccination lancets to each other as well: *"The impregnated steel lancet has arrived rustity, I vaccinated with it, but it has not taken. Every day more and more people decided to get themselves variolated. The list of these persons and the experiences in connection with them will be sent by your obedient servant*

Elek Bod

Nagy Szeben, 1801"[46]

Finally, the last category of enlightenment in print consisted of those short —mostly one or two pages long—appeals and other prints which were given to the parents or god-parents at baptism, or to the young couple at the wedding ceremony by the clergyman. A three and a half pages long print from 1808 called the attention of married couples to variolation and at the same time it informed them that it was free of charge and available whenever they wanted it. It warned the prospective parents that if they miss the opportunity to have their children inoculated they have to answer for it before God, the sovereign and their fellow-men.[47]

Another print in the possession of our museum (the time of its appearance is unknown), recommends inoculation to "Good Parents" to be vaccinated as well. It resolved their anxiety about the allegedly dangerous character of variola and mentioned that participation in this benefit was rendered possible by royal decrees.[48]

In addition to printed information for enlightenment and teaching the stubborn uncertainity and ignorance of the people was tried to be encountered by the power of the spoken word, too. The latter was made to be the task of the priests, according to the decree of the Consilium locum tenentiale passed in 1804.

The physician Mihály Kováts favoured the latter method. *"As though there*

[44] Váradi, Sámuel: *A tehén himlő avagy a vaktzina természetének és terjesztése módjainak rövid előadása* (A Short Lecture on the Nature of Cow-pox or Vaccine and on the ways of Its Spreading). Bécs, 1802. p. 203—204.
[45] Ibid. p. 216.
[46] Ibid. p. 218.
[47] The Historical Documentation of the Semmelweis Medical Historical Museum. Doc. No. 9326. 71.20.2. 20×32 cm.
[48] The Historical Documentation of the Semmelweis Medical Historical Museum. 71.20.1. 20×32,5 cm.

are a lot of good Hungarian Dissertations written (on variola)*... we know that the public does not read at all."*[49]

He thought that the only solution was that the spiritual advisers who were respected, should teach from the pulpit the good effect of inoculation with cow-pox. Accordingly he intended his book to be read aloud. He gave the form of a command to the appeal for vaccination then described Jenner's discovery and the victorious spread of vaccination in Europe. Finally he discussed the difference between the course of real small-pox and cow-pox. He suggested to teach all these to the children in the schools.

"OPINIONUM COMMENTA DELECT DIES, NATURAE IUDICIA CONFIRMAT"[50]

"Small-pox and fatal epidemics will never disappear entirely in the future..." —prophesied pessimistically one antivaccinator in 1875.[51] Opposition in Hungary which showed considerable energy already from the beginning, was silenced only by the last small-pox epidemic in 1886. This epidemic induced the authorities in 1887 to screw up the statute of 1876, which already made vaccination compulsory but without any penal sanctions. Law XII of 1887 made vaccination obligatory and declared the necessity of revaccination.

This statute was the result of more than eight decades of exertion, fights, debates and it put an end to small-pox epidemics in Hungary.

Jenner investigated one of the laws of nature and with its help during the first two decades of the century he saved *"more human life than the great Napoleon sacrificed for his own ambition."*[52]

The task of realizing the importance of this discovery, to have it acknowledged and finally to make the most of it by social legislature, devolved on the succeeding generation.

[49] Kováts, Mihály: *Értekezés a himlő kiirtásról. Lelkitanítók számokra* (Dissertation on the Extirpation of Variola. For Spiritual Teachers). Pest, 1822. p. 30.

[50] *"Fabricated Opinions are Crushed by Time. Convictions are Braced Up By Nature"* — Kováts, Mihály: *Értekezés a himlő kiirtásról. Lelkitanítók számokra* (Dissertation on the Extirpation of Variola. For Spiritual Teachers). Pest, 1822. p. 14.

[51] Szmethanovics, Sándor: *Az életmód betegségei* (The Illnesses of Regimen). The author's speach at the estraordinary meeting of the Medical Association on 17 April, 1875.

[52] Hőgyes, Endre: Jenner és a védoltások tana (Jenner and the Doctrine of Vaccination). *O. H.* 1896. No. 39. p. 469.

DARWIN'S INFLUENCE ON HUNGARIAN MEDICAL THOUGHT

by ENDRE RÉTI

The first tidings of Darwin's tenets in Hungary did not come from a physician; in this country a schoolmaster published the first article on the Darwinist theory of development. The article by Ferenc Jánosi (1819—1879) entitled "A New Theory of Natural History. The Origin of the Species" was published in *Budapesti Szemle* (p. 383) in 1860, a few months after the appearance of the original paper by Darwin. Jánosi taught school at Marosvásárhely, and in the Hungarian War of Independence of 1848—49 he manufactured gunpowder together with Ferenc Mentovich to help beat the Habsburgs. His inclination for the natural sciences and his familiarity with chemistry and medicine made him interested in the Darwinian teachings.

"Few scientific works aroused such lively attention", wrote Jánosi, *"as the one whose title may be found as a heading to these lines. The noisy attacks against it and the equally resounding appreciation evidence that this is the work of a genius, a work whose mission is to inspire, to change the every-day course of ideas and thinking."*

After Jánosi, an article by Jácint János Rónai was the next to explain the meaning of Darwinism to Hungarian readers. Rónai was doctor of philosophy, he participated in the War of Independence as a minuteman and chaplain, and after its defeat he worked as a pharmacist's assistant at Nádudvar, but had to flee to escape arrest, and in 1858 he emigrated to England. He had, however, an offer from Ferenc Császár, the editor *Pesti Napló*, to write three letters a week to his paper. That was how Rónai became a correspondent and from 1862 on he started to write reviews for the Hungarian press on Darwin's book and on Darwinism. In 1863 he published an article on Thomas H. Huxley's work *Man's Place in Nature and Other Anthropological Essays*, and from Sir Charles Lyell *The Biological Evidences of the Antiquity of Man, with Remarks on Theories of the Origin of Species by Variation.* As a result of the great interest stirred up by the article, he published his studies on the subject a year later, and then four years later in a second edition, entitling the volume *"Origin of Species. The Place and Age of Man in Nature"*.

The initial reports of Darwinism soon stimulated the first anti-Darwinist responses, too.

Professor Sámuel Brassai of the University of Kolozsvár, (today Cluj, Rumania), represented the rise of the anti-Darwinist trend. He wrote in 1863 in the following vein: *"Darwin takes natural selection for the basis of his theory*

—although the cannot demonstrate a single minute fact in favour of this premise. 'Natural selection' is just empty words without meaning, in fact it is an impossibility, for it is impossible to conceive of selection without a selector."

Even the *Orvosi Hetilap* (Medical Weekly) carried anti-Darwinist articles in this period. One of these was entitled "Darwin's Theory: or a Critique of the Origin of the Species—After Professor dr. Fée of Strassbourg". (*Orvosi Hetilap,* 1864, p. 569.)

Long years had to pass before Darwinism received scientific credence and authority in Hungary. The work of introducing it into fundamental scientific thinking was done by physicians. Tivadar Margó was one of the first Hungarian doctors to propagate and apply scientifically the teachings of Darwin.

Margó (1816—1896) was the son of a poor clergyman whose revolutionary thinking influenced the son Tivadar, and the latter's life. Tivadar Margó himself was an army doctor in 1848. After the fall of the revolution, his father was for a while imprisoned by the government of the Habsburgs in their notorious *Neugebäude,* and after that even the son remained for some time "a man under a cloud", unreliable for the government. For this reason he could not get a chair in the Budapest Medical School, and was already 44 when he was appointed to head the Department of Medical Surgery at the University of Kolozsvár. The speech he made in 1862 in his first lecture of the school-year at Kolozsvár was characteristic of Margó's entire approach. *"It is my most ardent wish to present Zoology and Comparative Anatomy in such a way as to form a link of transition between Morphology and Phisiology and to be regarded as a foundation stone for medical science as a whole."*

Margó was clearly aware that it took men of some philosophical education to engage in science. In his address after he was appointed chancellor of the university, he said: *"A lack of philosophical training for the mind renders university studies one-sided, superficial, and at times entirely unsuccessful. The damage wrought by this lack... is the most detrimental... in the case of students at the departments of natural sciences." "The simple observer can become a scientific researcher or explorer only if he is able to connect the data collected, or the whole series of the phenomena noted into a complete chain with mental links... and in this way he is able among the many different forms and figures, amidst the often unimportant phenomena of change, to get a glimpse of that which is permanent and standard—to establish the law."*

The actual penetration of Darwinism into teaching and scientific life in Hungary started with the publication of Margó's *Általános Állattan* (General Zoology) in 1868. In this and in his university and popular lectures he already took a stand in support of Darwinism. From his *Zoology* he still omitted the theory of natural selection, but later he propagated the entire Darwinist doctrine with this important part included.

Let us present a few excerpts from his writings about Darwin and Darwinism:

"It was in the beacon light of the great truth expressed in his theory that we first arrived at the conviction that Nature makes avail not only of bliss and pleasure

but even pain, struggle and death itself, in order to produce organisms of a higher perfection.

By the theory of natural selection—as by raising a magic wand—we can explain all the different characteristics and phenomena of the organic world which relate to the shape and structure of plants and animals, or to their development, geographical distribution and geological historical relations. Before Darwin the innumerable facts were just like a pile of scattered stones; he had to came to raise them into a splendid palace for science."

Margó went to see Darwin at his house. His writings on the visit again reflect his insistence on facts and truth. He concluded his description of the meeting with Darwin saying:

"There was finally another rare gift of nature he had—rare in an explorer of nature—his lively imagination and speculative bent, something, however, that he was always able to temper with his great intelligence and to contain within the boundaries of exact science without ever trespassing the limits of sound induction. In all his life he was never given to excesses. This distinguishes him from the older scientists who worked on the solution of the great question, and from those more recent 'ultra-Darwinists' who, with mere deductions and reckless speculations would have lowered Darwin's theory to the status of natural-science dogma. The mighty weapons of Darwin which brought his theory to triumph were not the entangled cobwebs of speculation, nor empty bombasts, but real facts and inductions made on the basis of these facts. The invigorating sunlight of his spirit came from his quiet solitude gradually to flood the world with the brightness of progress.

There is hardly anyone else in the history of science who struggled with so much courage and good fortune for a great truth, suppressed and scorned for centuries, as he, and who lived long enough to see this truth established—largely by his own efforts. At the same time he knew very well that it takes more than the selfless and persevering work of a single human life to arrive at the complete proof and verification of this truth."

Jenő Jendrassik (1827–1891), the eminent Hungarian biologist, treated the problems of evolution, the beginnings of life, the origin of the species, and dealt with the mechanism of thinking and psychological life in his biological notes even more boldly than did Darwin. It is commonly known that Darwin in his *On the Origin of Species* or in any other work did not attempt to explain the genesis of life, although in one note he wrote conditionally about the derivation of the living from the lifeless. Jendrassik derived the development of life from the development of proteins. *"For the time being we are unable to produce such carbon compounds, proteins. If, however, we accept this condition, then, after the foregoing exposition, we can see that the particles of such organic chemicals could have exerted an influence outward as if from a centre, an influence which extended, however, only to a certain point, and could be sustained only as long as this particle, through the absorption of matter, did not expand beyond a certain set limit; after this division had to take place, as a result of which the former beings gave rise to new beings whose number must have been infinite in the primordial sea that covered the Earth."*

In the wake of Darwin, Jendrassik also avoided giving an answer to the question what caused the changes in the organisms which led to the development of new species, and was content to say that: *"The offspring organisms in some of their attributes"* may have been different from the parent organism. His failure to do so is easily explained by the limited state of the knowledge of heredity in those days.

While Jendrassik was fighting for progressive biological thought in medicine, Lajos Markusovszky (1815—1893) was battling for the same thing in the press. Markusovszky's position in regard to Darwin and Darwinism was clearly reflected in two items in *Orvosi Hetilap* (1870, pp. 526 and 543).

"On July 4th the election of foreign corresponding members took place at the Académie des sciences, namely to fill the posts of the late Lawrence and Carus, of whom the former belonged to the Section of Medical Surgery, and the latter to the Zoological and Anatomical Section. For the Medical Surgery Section Lebert (Breslau) won the majority votes, and after him Kölliker (Würzburg) and Rowmann (London) barely got any support. In the election for the Zoology and Anatomy Section the votes were very much divided among Brandt, Darwin, Huxley and Loven. In the second round of ballots Brandt was elected on the basis of 22 votes, and thus Darwin, getting 16 votes, flunked out from the French Academy."

The next article expresses unambiguously the position of the progressive Hungarian physician: *"We mentioned it among the Miscellany of our preceding issue how it came about that Darwin was not elected when the vacancy left by the late Carus had to be filled. This was, however, not the end of the matter, for the scholarly prejudices which are manifest in that famous institution rose to the point of heated passion, so that those possessed by these feelings not only refused to recognise the optimal merits and excellent thinking ability of the eminent English scholar, but in fact wanted completely to devaluate them. The fact is that through the demise of Purkinje a place was vacated in the Zoological Section and the ruthless struggle is now going on about filling this post. Although Darwin's theory about the evolution of the species is wrong in the opinion of Milne Edwards, he is nonetheless impressed by Darwin's knowledge, and in addition to this he would like to see some moral recognition of his work about the islands formed by madrepores. Elie de Beaumont also holds that the work in question is worthy of reward, although he believes that Darwin has spoiled the good he could have done, by views which are dangerous and wrong at the same time, and according to him Darwin's election should be postponed until he would change his views etc.*

Apparently the Académie des Sciences had just then entered the phase in which the College of Cardinals had been in Rome when it wanted Galileo Galilei to declare against his conviction that the Earth did not move..."

As a matter of fact Markusovszky expressed his materialistic views sharply enough at other times, too: *"However great the anxiety with which the partizans of so-called spiritual culture regard the material orientation of world culture today, matter is only dead if they killed it..."*

The Hungarian Society of Natural Science published a Hungarian translation of *On the Origin of Species by Means of Natural Selection, or the Preservation*

of Favoured Races in the Struggle for Life. With this, Darwinism "arrived" in Hungarian scientific life, for with this it not only gained the personal support of men like Margó and Markusovszky, but also won the general appreciation of the scientific world.

When the publication of a natural science series had been recommanded by László Dapsy, Darwin's work *On the Origin of Species* was chosen to make up the second and third volumes of the series, published in 1873 and 1874 in Dapsy's translation and with Tivadar Margó as the revising editor.

The Hungarian Darwin edition was in the hands of Aurél Török de Ponori (1842—1912). He had been assistant professor under Jenő Jendrassik, and later became professor of biology at the University of Kolozsvár. He had studied anthropology in Paris under Broca, Topinard and Manouvrier, and at home he was appointed professor of anthropology at the Philosophical Faculty of the University of Budapest. His thinking was earmarked by a natural scientific outlook, although a certain agnosticism was also apparent in his works.

In his article published in 1896 in the *Természettudományi Közlöny* (Natural Science Bulletin) Török gave voice to Darwinist views in his description of the *"upright ape-man as the link between animal and human being". "If we take an unprejudiced stand in the question of the Pithecanthropus erectus we definitely have to say that, regardless of the outlook in the direction of which we are inclined, we have in it a being which combines human and animal characteristics, a reason why the discovery of the fossils of Java man found at Trinil is additional evidence, in fact highly important proof, in support of the principle of gradual evolution put forward by Darwin."*

Török took an open and militant stand in his "Anthropological Letters", too, which he wrote from Meudon. For instance, his article entitled "In Memory of Paul Broca" attacks the idealist-clerical trend (*Orvosi Hetilap,* 1880, p. 1083, Meudon October). *"In the winter of 1859 Broca submitted a paper on hybrids to the Biological Society in Paris ("Mémoire sur l'hybridité et sur la distinction des espèces animales") in which he was the first to demonstrate and prove the existence of hybrids, pointing out the fact that at the Jardin des Plantes he was able to develop through the interbreeding of a wild hare and domestic rabbit a hybrid of mongrel species, a leporid. Orthodox monogenists and polygenists were horror-stricken by this piece of work. The paper by Broca was received with contempt; and Rayer, the president of the Society, did not permit Broca to complete reading it. Broca withdrew his study, and, having resigned his membership in the society, he founded a new one with 18 other fellow-scientists, including Brown-Séquard and Geoffrey S. Hilaire, namely the present Anthropological Society of Paris."*

To be sure, the Society was placed until police surveillance until it finally became consolidated. *"And, we ask, what happened to the former society? This once famous society, although for the very reason of Broca's action bourgeois and clerical pietists had rushed to its aid, was forced to disband as it stopped having any message for science at large."*

Géza Mihalkovics, another physician-naturalist, (*Orvosi Hetilap,* 1882. p. 925) was most definite in his affirmation of the need for biological thinking

and broadmindedness, and of the importance of theory and acceptance of evolution among doctors.

"*It is not enough for the doctor to be an ordinary therapist, the medical profession must not be reduced to a money-making proposition; if a physician is not an explorer of nature, he should at least be a student of it whom natural scientific training and education place above the layman... It hardly needs to be verified that philogeny and comparative anatomy also belong among nature studies and are in fact closer to medical interests than some of the other branches of natural science,*" he writes.

Mihalkovics expressed the thesis without which the results of animal experiments could not be applied to man and said: "*...in proving theses of universal validity... the development of the closer or more distant animal categories has to be considered. Man is not a being isolated from other living things: his relationship with those is demonstrated by philogeny and comparative anatomy.*"

The fact that some of Darwin's theses which related to the world of the living in general, were applied to man and especially to human society, led to serious conflicts beyond the field of biology. The aim of these efforts was to make it seem that the grave problems, crises, unemployment and wars colonialization and the exploitation of man conformed to some kind of a natural law. This social Darwinism, which fetishized the Malthusian doctrine, considered the struggle for survival as a fight for existence. The intention behind it was to suggest violent, sanguinary "solutions", and to present natural selection as some device of mysterious powers of a higher order, a device for elevating an "elite" of mankind (the group of the most forceful and violent, the shrewdest and least conscious people) while the masses of workers—described as grey an unintelligent—become mechanical executors of the will of the "supermen", or their soldiers marching into death.

István Apáthy, one of the most outstanding scientific and public figures of the first decades of the 20th century, a world-famous researcher on the structure of the nervous system, of the neuro-fibrillae—and at the same time friend and supporter of Mihály Károlyi, one of the leaders of the Hungarian national independence movement—meditated a great deal about the social aspects of Darwinism and did also active research on the subject. Apáthy was born in 1863, became a professor at the University of Kolozsvár, was three times dean of the Faculty of Natural Sciences, and in 1903—1904 chancellor of the entire university. Without a doubt he was one of the most enthusiastic and most revolutionary personalities of his times, a brilliant man and a man of great spirit. Let us cite a few ideas characteristic of him from his volume entitled *A fejlődés törvényei és a társadalom* (The Laws of Evolution and Society —Budapest 1922), which contains actually the text of his lecture series delivered in Budapest and Kolozsvár (today Cluj, Rumania) in 1909—1910 at the Free School of the Hungarian Society for Social Sciences.

"*It is a great mistake to proclaim selfishness as the sole natural motivation of human society and in fact as the only motor of our culture and to deny the power —and so also the use—of social charity and moral sensibility. Neither Darwin*

nor those followers who understood him ever offended in this way. It is not Darwinism to pretend that murder may promote development. It is nonsense to call social Darwinism a tenet according to which collective killing—war—is the mother of human progress."

He treats the evolution of the species and the development of new species as alternatives.

"I think it is probable that the original kinds of initial cells for the evolution of species were much more numerous than the number of living species we know today. Certainly a great many of the genealogical lines from the initial cells of development were interrupted, and, in comparison to the original infinite varietys perhaps only a small number of lines continued the present generation, coming, down to the species still existing today. True, as I said, distinct species still existing today could have come into being through a later ramification of a lineage which started as a common one", he writes.

Apáthy considered mutation a mechanism by which a variation could be effected in the development of the species. *"Why could not some of these higher degrees of differentiation which persist, the so-called mutations, be simply taken for a larger step than usual in the way of the further development of the species? he asked." "Perhaps later—more slowly and more gradually—several individuals of the species will go through the same transformation. We are dealing merely with the further development of the species and not the genesis of new species..."*

While Lajos Méhely, that apostle of "race protection", that is, racism (his version of eugenics), tried to justify the horrors of war by the struggle for survival and by natural selection, and made war seem not merely inevitable but even beneficent, Apáthy stood on the side of humanism.

Méhely wrote, for instance in 1915 in the *Természettudományi Közlöny* (Natural Science Bulletin), championing a reactionary social Darwinist and practically fascist ideology: *"The world war now taking place also bears the marks of the eternal laws of nature... and is inevitable... Those who comprehend the laws of biology are aware of the fact that the terrible world war now taking place is merely a phenomenon of the struggle for survival, a manifestation of unusual form and shocking in its dimensions."* Méhely regarded *"German overpopulation"* and secondly *"the overpopulation of Russia"* as the causes of war, entirely on the basis of the Malthusian theory. Moreover: *"The direction of progress always serves development according to species and races, and the laws of adaption and heredity make it entirely impossible that at any future time a mankind homogenous in body and spirit should populate the Earth. We have in truth been saved from on a national scale. War is a cleansing fire."* He tried to explain this nonsence as follows: *"True, in war a great many men of noble character and heroic spirit fall in battle, and at the same time many defective people are spared death, something that apparently repudiates the principle of natural selection, but let us not forget that the selection in not among the individuals, but among peoples and nations, and the result is assured by the collective total."*

As against this decadent ideology, Apáthy took a very progressive stand in his article "The Scope and Tasks of Eugenics", which appeared in the

January 1, 1918 number of the *Természettudományi Közlöny* (Natural Science Bulletin). In this article he writes in connection with the war: *"Before the war I thought that social morality would prevail much sooner than the time my present hopes would set for its triumph. One of the most terrible results of the two years of world war up to now has been that all the preconditions of social morality have almost completely been annihilated in Hungarian society—or to put it correctly and more candidly, in the agglomeration of people who are still living in the territory of Hungary today... The war exposed a number of lies and scorned a lot of expectations attached to it. Generally the war has made people much worse, more dissolute, more selfish and more materialistically minded than they before, in the so-called decadent peace.*

That peace was decadent because already many years prior to the war it was only deceitfully called peace, in fact it was preparation for war, not through the elevation of the souls to make them lofty enough for the great sacrifice of war, but through corrupting people, making them want and demand—or at least accept—war as a business proposition."

Then he went on to show that Méhely's doctrine* turned Darwinism topsy turny, and pointed out that the application of the tenet of natural selection to human society and war was false, morally wrong and noxious. Why? *"For war is in all respects the very opposite of what we call natural selection and can regard as the main factor in maintaining the soundness of the species. Natural selection picks out the best, preserving them for life and turning them into procreators of the next generation. War also picks the best, the able-bodied, those fit for military service, but casts them a pray to death... I will even concede that human development did need some wars in the past. But let everyone open his eyes and he will see that at the present stage of human development, human culture, administration and technical knowledge, war is not a necessity but mere madness. This world war will not bring anything profitable for mankind in general, or for the development of individual nations in particular, but it will cause the destruction of numerous pre-requirements for progress, it will cause the need to create a new from shoddy remnants with long years of work things that would still exist if they only had not been destroyed. It would be absurd to want something at a later stage of development simply because it was needed at an earlier level."*

"No stride forward can be made in the field of eugenics until mankind is rid of the present war and the spectre of another war."

As Apáthy professed that the struggle for survival was no longer inevitable among advanced nations, he held the Darwinist view in regard to the anti-progressive nature of war. This is in fact an important but rarely emphasized aspect of Darwin's teachings.

Darwinism has also another equally fundamental and equally infrequently

* Lajos Méhely started out as a promising Darwinist, at least that was the impression presented of him by his publication *A földi kutyák fajai, származása és rendszertana* (The Species, Origin and Classification of Spalax, Budapest 1909) but later he lost his bearings and adopted an openly reactionary and in fact fascist orientation.

mentioned side. Darwin is known and taught as the pioneer of the theory of evolution, but at the same time the history of science should affirm that Darwinism, beyond its doctrine of the kinship of all living creatures, courageously asserted also the kinship and equality of the human races although at that time but scant paleontological proof was available. The position of progressive Hungarian doctors in this matter is connected with his stand.

Apáthy translated the term "eugenics"—to which undesirable connotations had become attached when used in the sense of "race improvement"—as "race health", his own coinage. Probably the terrible human slaughter of the war contributed to making this subject fashionable in Hungary. Méhely was the most reactionary representative of the discipline of eugenics; Apáthy and Lenhossék approached the subject from an entirely different angle. With Apáthy the idea of eugenics lost its barbarous edge.

It was already typical of Apáthy's thinking that he championed the use of the term "race health" instead of the German *Rassenveredelung*. *"First of all, because health is a more objective concept than nobility which is always affected by the subjective interests of the person making the value judgement, and second because the topic on which eugenics may in fact provide some scientific guidance is in fact the health of the race,"* he reasoned. For him "race" signified the whole human race.

In a large part of his study Apáthy writes—chiefly on the basis of Dr. Géza Hoffmann's book *Die Rassenhygiene in den Vereinigten Staaten von Nordamerica*, Munich 1913—on how this question is treated in the United States, where, although just a few initial steps were taken, still more was done in the field than anywhere else in Europe. Not—says Apáthy—because the social spirit is there stronger than in the more educated countries of Europe, in fact there the exaggerations of the individualistic world outlook are in certain direction even more extreme. He notes that the progress made in the United States in the matter of race health is by no means owing to American constitutionalism or democracy, and in fact remarks, *"Unfortunately not even a socialist approach has a big share in this."*

Dealing with the position of Negroes in the United States, Apáthy denies that the prevention of marriages between whites and coloured is simply a consequence of the natural disgust with which the Anglosaxon tribe regards sexual union with the inferior blacks. *"This disgust is hardly evidenced by the still growing number of Mulattos and even less by the fact that in the States of the South it was the general custom in the period of slavery to keep Negro concubines and this custom still exists. Of course, formerly it was in the interest of people to increase the number of slaves, today it is hardly profitable to procreate coloured people because today already even the coloured demand rights and a share in the national possessions."*

Mihály Lenhossék (1863 – 1937), an outstanding exponent of the neuron hypothesis, a morphologist of world-wide renown, was Apáthy's contemporary.

A writing by Lenhossék which appeared three months after Apáthy's article, in the April 1918 number of the same Bulletin under the title "The Races

and Eugenics" suggests an interesting comparison. This study spotlights essentially the same problems that are stressed in Apáthy's article: "The question of the equality or unequality of the races", to which a critique of the slogan of the "superior German race" is added.

Lenhossék defined the concept of human race in Darwinist terms. He established that in comparison to the animal kingdom the human species are unified as a whole, but within this entity there is a colourful mosaic of races, or breeds of men. The race is a group of human beings characterized by constitutional and psychological similarities inherited from generation to generation. Lenhossék cautioned that race should not be mixed up with "people" or "nation" whose characteristic distinguishing features did not derive from nature but developed historically from human psychology.

József Madzsar, (1876 – 1938) an outstanding member of the Hungarian socialist intelligentsia, a great physician and courageous politician, invited support for Darwinism both in his books and lectures. Moreover his views, although some of them were stated over 50 years ago, can still be considered relevant and progressive.

Madzsar loved people and was passionately interested in social progress. Consequently he came into close contact with politics already as a student. His political interests were intertwined with a philosophical and analytical bent; he liked to delve in the fundamental epistemological problems of natural science, the discussion and propagation of these problems. He translated a great deal, he interpreted most of Darwin's work to Hungarian readers, and he made available Kropotkin and Bölsche, the well-known and internationally significant nature philosophers of the times. In Hungary he was one of the Marxist pioneers of Darwinist thinking, a broadminded investigator of natural and social development. This is evidenced by the lectures he held at the Society of Natural Sciences and the radical Galilei Circle. His principal works are: "The Origin of Man", "Human and Animal Societies", and the essay "Lamarck and Darwin" which appeared in the brochure on the operation of the Free School of Social Sciences in 1908—9. Most of them are still regarded as exemplary in their natural acientific approach, in the clarity of their analysis and conclusions.

Let us quote from his *The Origin of Man and the Outlines of Phylogenetics,* which appeared in 1918. After Heraclitus's motto, *"I see nothing but change. Do not let yourself be deceived! Your shortsightedness and not the nature of things makes you think that you see a substantial island in the sea of change"*, has given the keynote, Madzsar begins his book in the following vein: *"The proud world outlook of Man created in the image and likeness of God was twice humiliated by science. First by Copernicus when he removed the Earth from the centre of the universe and classified it with the satellites among which it orbits the Sun. Second by Darwin, who deprived man of the special position he had occupied in the realm of the living and ranked him with the beasts.*

In living nature there is no striving for any goal. If the living creatures take on increasingly complex structure as the earth is developing and are making complex adaptations, then without a doubt some regulating fundamental principle must

be at work in nature. Darwin found this in the selection of the fittest which is produced by the struggle for survival. If the organisms had in fact the ability to turn their life-functions always toward an expedient goal, this would break through the laws of the forces of nature and would re-introduce the concept of miracles into natural science."

The following lines express the Darwinist teaching with attractive conciseness: *"Nature does not work according to a single scheme. All the genetic factors work at once and together and very often it cannot be determined which of them is decisive in bringing about a variation. In the final analysis all development depends on the effects of environmental factors. These produce the changes, these cause that some organ is subject to especially heavy use or is hardly in use; the external circumstances create favourable or unfavourable conditions for living and so produce the struggle for survival in this or in that form. But the fact that this irregular play of forces has perfected living creatures from the unicellular amoeba to the human being, can be clarified only by a single natural scientific explanation, namely selection."*

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JÓZSEF FODOR AND PUBLIC HEALTH IN HUNGARY*

by JÓZSEF ANTALL—
ANIKÓ FALUDY—KÁROLY KAPRONCZAY

In the 19th century the fight for national independence and for the transformation of the social order was both the imperative demand of history and the program of political progress. Emerging Hungarian intelligentsia, and one of its most important strata, medical society—which, too, strongly demanded modernization—got enlisted in the service of these goals.[1] In trying to narrow the gap with Europe they had to clear up the unsolved questions of centuries, to catch up with immense distances of backwardness. Travelling abroad did not only mean the pleasures of discoveries but also disappointments caused by the comparisons. *Sándor Bölöni Farkas*, a traveller of the Age of Reforms writes in his American travelogue (1834): "*A Hungarian traveller must often sigh if he carries the memory of his country along everywhere.*"[2]

They were characterized by an enthusiastic search for revival, a deep interest in every aspect of human life or as we would call it to-day, an ever-increasing reception of informations. Perhaps it is hardly surprising that even among the physicians of that period, not the "researching type", but the "public figure" became dominant.[3] It is therefore often difficult for the historian to compare the great Hungarian personalities whose contribution was in accordance with the standard of their age with foreign scholars: they often cannot be ranked to those who were inventors and pioneers in the field of science in the original sense of the word—but played an important role in the "realization"—of science on social level, in the introduction of scientific innovations

* The present study of the authors does not strive for a complete, over-all analysis of *József Fodor*'s life and work, it only aims at presenting the foreign reader the most prominent stations of his career and the cause of public health in Hungary in the second half of the last century. After a thorough analysis of *Fodor*'s correspondence—the extracts of which are published here for the first time—and the complete source material, it will be the task of a new monography to represent his life and work satisfactorily.

[1] *J. Antall,* Die historischen und wissenschaftlichen Faktoren der Entwicklung der Pester medizinischen Schule in der Mitte des 19. Jahrhunderts. Wissenschaftliche Zeitschrift der Humboldt-Universität zu Berlin, Math.-Nat. R. XIX. 1970, 4.

[2] *Sándor Bölöni Farkas:* Utazás Észak-Amerikában (Travelling in North America) Kolozsvár, 1834. p. 41. — *J. Antall,* Közművelődés és iskolaügy Bölöni Farkas Sándor úti jegyzeteiben (Public education and educational affairs in the travelogues of Sándor Bölöni Farkas). Ped. Szemle, 1966. Nr. 12.

[3] *J. Antall,* The Birth of the Medical School of Pest and the Health Policy of the Centralists, Comm. Hist. Artis Med. 57–59. (1971), p. 173 ff.

of the age, and in founding the Hungarian public health and the basis for a modern higher education.[4]

The teeming spiritual and political atmosphere, the passing of the reforms was more favourable for people moving on the forum than for specialist researchers. Beside the important role of such great physicians of a wide-ranging cultural interest, as *János Balassa*[5], *Lajos Markusovszky* and *Sándor Lumniczer*[6] it was *Ignác Semmelweis* playing a less important role in medical public life (and this is acknowledged by his friends and not by his enemies)—who became an outstanding figure of universal medical history by discovering the aetiology of puerperal fever and by formulating the idea of prophylaxis.[7] With his virtues and faults he embodied the modern specialist, the type or researcher who keeps on pursuing his purpose steadily. It cannot be a coincidence either that after the Compromise of 1867 and the formation of the Austro – Hungarian monarchy, the teeming political, legislative activity of the first period broke down, the real talents turned away from the fruitless debates of constitutional fights and unlike the previous generation they were concerned mostly with the emerging subdivision of sciences instead of political life.

At the verge of the two periods, representing the synthesis of both types of physicians, we find the sympathetic figure of *József Fodor,* who combined purposeful scientific research and wide-ranging interest with national and social responsibility.[8] He was educated by the medical school of Pest, forming around *János Balassa,* a true training ground for the new generation of physicians characterized by common medical approach, responsibility towards public interest and scientific methods in examining facts. He was a man of wide-ranging interest, imbued with the ideas of Hungarian historical liberalism,[9] and though he adopted the results of the German medical science, its excellent methods, nevertheless, the model for his ideas relating to public health was rendered by England and the British institutions—similar to the general political philosophy of *István Széchenyi* and his contemporaries.

[4] *J. Antall,* The Emergence of the System of Modern Higher Education in Hungary 1848 – 1890. Comm. Hist. Artis Med. 51 – 53. (1969), p. 61. ff.

[5] The Centenary of Balassa's Death. Several articles in the Comm. Hist. Artis Med. 48 – 49. (1969).

[6] *J. Antall,* Sándor Lumniczer and the Medical School of Pest. Comm. Hist. Artis Med. 45. (1968) p. 75.

[7] *Gy. Gortvay—I. Zoltán,* Semmelweis, his Life and Work. Budapest, 1968. — *J. Antall,* Welche Rolle spielten das Familienheim und die Schule in der Entwicklung von Semmelweis' Persönlichkeit? Comm. Hist. Artis Med. 46 – 47. (1968) p. 95.

[8] *E. Hőgyes,* Fodor József. Az orvosi tudomány magyar mesterei (József Fodor. The Hungarian Masters of Medicine), Budapest 1924. p. 179.

[9] *J. Antall,* Absolutism and Liberalism in Health Policy in Hungary. Medical History in Hungary 1970, (Comm. Suppl. 4.) p. 147.

FODOR'S LIFE AND CAREER

József Fodor was born on the 16th July 1843 in Lakócsa, county Somogy.[10] His father emerged from the average world of the landed gentry: wrote works relating to agriculture and moreover, he even wrote a drama, where he critisized backwardness and contemporary gentry attitude. Next to the family background mention should be made of the influence of schools which he attended at Pécs, the town famous for its educated middle-class. He studied medicine in Vienna in the last period of the flourishing Second School of Vienna and in Budapest. Already as a medical student the attention of *János Nep. Rupp* Professor of medical Jurisprudence, was directed on him. He graduated as doctor of medicine in 1865 and soon after obtained degree as obstetrician, master of surgery and ophtalmology. No wonder that Prof. *Rupp* immediately employed him as assistant, the young man who knew several languages and had excellent abilities. This department was engaged with teaching forensic medicine (medicina forensis) and medical jurisprudence (politica medica), the latter containing decrees relating to public health which had been passed administratively. These decrees are summed up in the seven volumes of *Francis Xav. Linzbauer's Codex sanitario-medicinalis Hungariae*, published in 1852 in connection with which the witty remark was made: *"if nature had as many laws as the medical jurisprudence, God himself would be embarrassed"*.

Beside *Prof. Rupp, Fodor* himself lectured on medical jurisprudence systematically. At the same time he filled the post of pathological anatomist in the *St. Rochus Hospital* in Pest and then worked as coroner in the Inner City. His experiences as coroner were passed over and published in the *"Orvosi Hetilap"* regularly. Through *Kálmán Balogh* he met *Lajos Markusovszky*, too. Despite the great difference in age, *Lajos Markusovszky* and *József Fodor* became great friends, which friendship later determined the career of *Fodor*. *"Fodor was a constant and firm member of our Saturday evening meetings, consisting of professors of medicine and practitioner physicians of kindred way of thinking and sentiments. These meetings were the continuation of those founded by Balassa and Markusovszky in the sixties of the last century and to be developed later by Lumnitzer, Balogh, Korányi, and reconstructed from time to time by members of the young generation, where the questions of medical reforms which rose Hungarian medical culture on modern level during the past decade, were discussed in friendly, informal conversations.*

Fodor took an active part in these conversations. The realm of public health is a wide world including a manifold variety of human attempts, the aims of which is to create the greatest possible health and lastingness within the boundaries of each. Fodor as a young man saw in everything its relevance to public health, his

[10] Monography on *Fodor*'s life: *G. Hahr—J. Melly*, Fodor József élete és munkássága (József Fodor's Life and Work), Budapest, 1965. — Fodor József emlékezete. (In memoriam J. Fodor), Separatum of the "Egészség", Budapest, 1902. April 15. — *I. Vedres—F. Fodor, Fodor József* (1843—1901). Study form the Magyar orvosi iskola mesterei (Masters of the Hungarian medical school) Budapest 1969.

way of thinking was predestinated by the idea of hygiene, he was almost a poet in giving public health interest to any scientific or social question. His ideas, sometimes exaggerations were often opposed to heavily in these meetings and the reforms relating to public health, he proposed, were furthered to the authorities in milder form than that of his own proposals. It was always Markusovszky who supported whole-heartedly Fodor's theories and ideas referring to public health reforms, he who was the first to take up the cause of renewal in the columns of his medical journal, "Orvosi Hetilap". His chief opponent was Balogh, fellow-worker of Markusovszky, who kept on softening the bombastic soaring of his ideas. Influenced by these views Fodor's ideas became active elements in the field of Hungarian public health."—wrote *Endre Hőgyes*, his friend and contemporary in the journal "*Egészség*".[11]

Inspired by this connection with the Medical School of Pest, *József Fodor* took an exam from the "proceedings of medical officers" in 1869 to become a private docent. This period is the birth of a reformed medical training in the University of Budapest. The professors were filled with reform ideas, and *Markusovszky*, who was in charge of the university affairs beside *Eötvös* and *Trefort* ministers of public education, did their best to send young Hungarian physicians abroad attaining them state scholarships, so that they could study the new branches of science, especially public health, which were developing at a great speed. On the recommendation of *Markusovszky*, *Rupp* and *Balogh*, in 1870 *Fodor* obtained a scholarship from the Government. First he attended *Pettenkofer's* lectures in Munich and there he also got acquainted with the methods of chemical analysis, necessary to hygiene, in the laboratory of *Liebig*. Afterwards he worked in the institute of *Recklinghausen* und *Hilger* in Würzburg then he travelled to Austria, Germany, the Netherlands, Belgium and England, in order to study the affairs of public health. He in fact got this travelling scholarship after a certain activity in this field in Hungary: we think of his first article, entitled "*A hagymáz kóroktani kutatása*" (Research into the aetiology of typhoid fever) which was soon followed by several articles dealing with forensic medicine. Mention should be made of his essay on the disposal and utilization of sewage. In Munich he studied the examinations referring to water, soil and air, the three great fields of public health, in the same spirit and with the same methods as *Pettenkofer* did, whom he regarded as his master.

He reported about his experiences gained in the foreign countries and sent these letters home systematically, rendering a true picture of their sanitary institutions and health administration, and comparing them with the situation at home. During his travelling he was attracted most of all by England, as it has been mentioned before. His experiences in England will be treated below in chapter III.

[11] *E. Hőgyes:* In memoriam Fodor József. cf. MTA elhunyt tagjai fölött tartott emlékbeszédek (Memorial speeches on deceased members of the Hung. Academy of Sciences), Budapest 1903.

He sent home scientific essays from his travelling tour, too, which already present him as an expert of public health having firm ideas. Soon after his return home, he was appointed to the chair of Medical Jurisprudence at the University of Kolozsvár in Transylvania, at the age of 29. He spent a relatively short time at Kolozsvár, since the National Public Health Council and the medical faculty of the Budapest University could achieve the foundation of a Public Health Department to the chair of which he was invited in 1874. The Department of Public Health was the second in Europe after *Pettenkofer's* Institute in Munich, but the first where the compulsory examination from public health was introduced in the curriculum.

Fodor began work with great energy. His first activity was to apply to the Ministry for Public Education for a determined definition of the teaching of public health and the organization of the analysis of the question on national scale. The National Public Health Council had already proposed the latter to the ministry of Inner Affairs in 1873, i.e. a national investigation into the contagious diseases and the establishment of an institute for the systematic observation of the state of public health. The task of this institute would have been to organize the examinations and observation on certain parts of the country. This plan was supported by *Fodor* in his own proposal summed up in five points: 1. medical students should receive a thorough knowledge of public health, 2. organisation of national collection of statistical data relating to public health; 3. thorough analysis of the air- and soil conditions of the capital; 4. to create public health institutes or stations all over the country and finally 5. study of local epidemics and deductions on national scale. *Fodor* followed *Markusovszky's* ideas truly, i.e. the cause of public health must not stop within the boundaries of the Public Health Department of the University but should be extended to the wide strata of society. In this spirit he was anxious to inform not only experts but also public opinion about his laboratory experiments and bacteriological researches. He was supported by *Markusovszky* in these attempts, too, who obtained for him the confidence of *Ágoston Trefort*, minister of public education. In this period public health literature consisted almost exclusively of his writings, since he expressed his views in relation to every question that emerged in this field. Meanwhile he kept on travelling abroad: in 1873 he was sent by *Trefort* to the International Hygienic Exhibition in Vienna, he returned to Germany and in 1873 he examined the quarantines at the Adriatic and Tyrrhen seesides, following the directions of the minister of Inner Affairs and of Public Education. In this same year he represented Hungary on the meetings of the experts of public health in Munich. In 1876 he delivered a lecture on medical statistics on the Statistical Congress in Budapest. In 1878 he stayed in Paris for a longer period to study its institutions for public health. In 1879 he took part in the International Conference on Pest and Cholera held in Vienna. In 1881 he studied hot-air heating in Vienna. He took part in several congresses abroad: on the International Congress of Hygiene held in Vienna in 1887, on the Public Health Exhibition in Berlin arranged in 1883, on the Congress of Hygiene held in London in 1891.

He was not idle at home either, he was engaged in hygienic investigations commissioned by the government. His scientific activity and role in public life was fully acknowledged: he was associate member (1883) and later member of the Hungarian Academy of Sciences (1885) and attained the highest positions at the university, too, first as dean of the Medical Faculty and finally as rector magnificus. From 1876 onwards he took charge of the teaching of state medicine taking it over from *János Rupp*. His lectures were characterized by strict logical structure, consequentiality and a full presentation of the most recent researches into the natural sciences and their evaluation. The same principles characterized him as an examinator.

Though his department worked under unfavourable circumstances, he continued his researches in the sphere of the hygienic investigation of air, soil and water and canalization, parallel with his many other duties. He accepted the bacteriological views of *Pasteur* and *Koch* and the significance of pathogenic bacteria. He was primarily interested in the capability of resistance of the human and animal organisms against the attacks of the pathogenic bacteria. His inaugural lecture delivered in the Academy of Sciences in 1885 was entitled *"Baktériumok az élő állat vérében"* (Bacteria in the blood of the living animal). He examined how the animal kills the bacteria getting into his blood and said that it was a characteristic feature of animal blood. Thus he became one of the founders of serum therapy.

As a university professor he initiated the introduction of post-graduate training during the summer holidays. Though *Balogh* refused the plan, it was nevertheless realized thank to the definite support of *Markusovszky*. These holiday courses were the basis for the future well-organized post-graduate training of physicians in Hungary.

In 1885 *Fodor* and *Markusovszky* convinced *Trefort*, minister of public education of the necessity of safeguarding of the health of school-children with increased care. They considered it as a vital part of the system of compulsory schooling of children. *Fodor* was convinced that it is not enough to employ general physicians in order to improve the state of public health of schools but this task should be fulfilled by specially trained medical officers of schools. He organized a course for this purpose and led them for 16 years. He trained medical officers of schools whom he found appropriate posts with the assistance of *Markusovszky* and *Trefort*.

There were several societies in Hungary, and club-life flourished especially in the Age of Reforms. However, these associations had not such a prevailing importance in Hungary as those in Great-Britain. *Fodor* initiated the establishment of the National Public Health Society in 1886. Its president was *Ágoston Trefort* minister of public education (whose father was a physician which fact might have contributed to his sympathy for public health affairs), while *Fodor* became its general secretary. His scientific and educational activity is well characterized by the fact that between 1882 and 1892 he edited the supplement of the *Orvosi Hetilap* entitled *Közegészségügyi és Törvényszéki Orvostan* (Hygienic and Forensic Medicine) (1865) and the journal of the Public Health Society

entitled "*Egészség*" (Health) between 1887 and 1901. Previously he was general secretary of the Natural Historical Association and the editor of the Natural Historical Journal.

In the last years of his life he became disheartened owing to tragedies in his family life (death of his wife and daughter) and partly owing to changes in government, following the death of *Trefort* (1888) and *Markusovszky* (1893). In 1898 he withdrew from public life, from his activity as editor and other duties in the societies. Soon after his master, *Pettenkofer*, whose obituary he wrote, he died owing to a severe attack of influenza on 19th March 1901.

Having followed the stations of this great life and career in connection with the rise of public health as independent science and one of the most important part of applied politics, let us turn to his scientific work from a closer angle, to his scientific results which contributed in a great part to his practical results.

FODOR'S SCIENTIFIC ACTIVITY

Preventive medicine greatly contributed to the development of the medicine. The sources of this science date back to classical medicine, its modern definition, however, is connected with the name of *Max Pettenkofer*. It was he who began to collect evidence on the basis of which he tried to detect the causes of diseases caused by inadequate environments. The discoveries of *Pasteur* and *Koch* extended the field of modern preventive medicine, since with the creation of bacteriology they freed medicine from hypotheses and mistical speculations. On this track the science of hygiene and public health ranging over a wide field of interest, developed into the direction of more special researches: microbiology and hygiene (including investigations into the conditions of soil, air, water, dispose of sewage, heating, building of roads and sewage system, etc.) Public health took its place within the social and technical sciences as well as jurisprudence.

József Fodor outlined the sphere of his scientific interest himself in his first significant study entitled "*Az árnyékszék-rendszerekről, tekintettel a hazai és főleg a pesti viszonyokra*" (On latrine-systems with a view to the conditions in Hungary, especially Pest):[12] "*The activity of modern hygiene is confined to the towns with their millions of inhabitants. It was discovered already a long time ago that the sanitary conditions of towns is much worse than that of villages of isolated dwellings... This observation induced physicians to investigate the cause of these noxious effects. The cause of disease was recognised in polluted air, insufficient food, filth of the towns, insanitary condition of latrines, etc...*" In this spirit, Fodor dedicated his whole life to the investigation of these "noxious effects". It has been mentioned before that already as medical student he was

[12] Árnyékszék-rendszerekről, tekintettel a hazai és főleg a pesti viszonyokra (On latrine systems with a view to the conditions in Hungary, especially Pest). Orvosi Hetilap 1869. It was published as separate publication, too.

greatly interested in the sanitary conditions of the population. His scholarship which enabled him to travel in Western Europe was of great significance as he was able to work in the best laboratories of his age and could study the public health matters of states where hygiene was on the highest level.

Fodor's scientific views and aims can be studied in their completeness in his lectures delivered at the university in which he gives a detailed analysis of the methodology of public health statistics, sanitary conditions of towns and villages, investigations relating to soil, water and air and their effect on the health of people, the connection between habitation and the spread of epidemics. The subject matters of these lectures give only an outline of the main spheres of his scientific interest, nevertheless, next to his scientific publications they enable us to find out the basic questions he was interested in before death put an end to his life at a comparatively early age. In his lectures he dealt with questions he was not able to investigate in detailed publications, but the notes to his lectures which have come down to us, reveal his views referring to these questions and point to his manifold activity.

At the beginning of his career, *Fodor* was primarily interested in the correlation between insanitary conditions and epidemics. In his first scientific treatise[13] on *Pettenkofer's* and *Virchow's* track, he investigated the aetiology of typhoid fever and suggested the collecting of evidence referring to the epidemics and the establishment of a committee to investigate the conditions of public health of the towns and to carry out systematic research into the hygiene of soil, air and water. In another publication of his[14] he made proposals for the dispose of sewage and its utilization, the building of a sewage system for the town in order to check the pollution and contamination of soil water and air. At the beginning of his scientific career he obtained his private docentship from state medicine on the basis of his dissertation entitled *"Statisztikai tanulmányok a házasság felett, különös tekintettel a közegészségügyre"* (Statistical studies on marriage with a special view to public health).[15]

The second station of his scientific career is connected with his travelling scholarship—which he received partly on account of the above-mentioned study—and which period at the same time has the greatest significance in his activity. *Fodor* was a pupil of the *Pettenkofer* school. Consequently he was mainly interested in the question of classical hygiene, i.e. the problems of soil, water, air and sewage. Its theoratical basis was created by *Pettenkofer* which was followed by a series of scientific publications accepting these theories. *Fodor* himself stressed the importance of the principle of methodological

[13] A hagymázjárvány a budapesti kir. orvosegylet előtt. A hagymáz kórtani kutatása. (Epidemy of typhoid fever before the Hungarian Royal Association of Physicians. Aetiology of typhoid fever), Orvosi Hetilap 1868.

[14] Miként lehetne a városi hulladékot értékesíteni (How to utilize sewage of the towns), Orvosi Hetilap, Közegészségügyi melléklete, 1869.

[15] Statisztikai tanulmányok a házasság felett, közegészségügyi tekintetben. (Statistical studies on marriage with a special view to public health), Dissertation of private docentship. Manuscript 1869.

research.[16] He was most successful with the method of detecting carbon dioxide based on formation of carbon oxide haemoglobin, which method was suitable to detect even the slightest quantity of carbon dioxide. He carried out fundamental investigations for finding out the correlations between fresh water and underground water and the characteristics of polluted soil. He proved that hygienic measures directed against the pollution of soil, water and air might check the spread of epidemics.[17] He urged the cause of the building of a municipal sewer system and its modernization respectively, since contaminated soil and exhalations might be the cause of epidemics and infections.[18] His investigations relating to soil were acknowledged outside the bounderies of Hungary, too, this international respect was expressed by the fact that *Weyl* asked him to contribute to his manual of public health published in 1893.

Fodor's investigation into the hygiene of soil have also bacteriological significance. *Pettenkofer* and *Virchow* still doubted the pathogenic function of the micro-organisms which were discovered one after the other, *Fodor* on the other hand, following the views of *Koch* and *Pasteur*—carried out his epidemiological investigations relying on the results of bacteriology. He suspected the relation between the pollution of soil, water and air, various micro-organisms and epidemics. He came to this conclusion while studying the greatly opposed mycological theories of *Hallier:* he all of a sudden realized that those mycotic organisms in fact have a vital role in the spread of contagious diseases. On the basis of his experiments, *Fodor* proved in the 1880-ies that infections are caused by special bacteria and the task of medical science is to discover these micro-organisms and to develop immunity in the human organism. His inaugural lecture in the Academy of Sciences was dedicated to these questions of immunity—as it has been mentioned already—and he definitely maintained that various pathogenic bacteria are destroyed in the blood of a healthy animal owing to its biochemical effect.[19] This theory was later proved by *Nuttal* and *Flügge* and developed by *Bucher, Lubarsch* and *Behring*. Together with *Gusztáv*

[16] Kísérleti tanulmányok a talaj és talajlégnemek fertőtlenítése felett (Experimental studies on decontamination of soil and soil air), Orvosi Hetilap 1875. the same in German in: Deutsche Allg. Zentralzeitung. 1875. — Kísérleti tanulmányok a talaj és talajlégnemek felett (Experimental studies on soil and soil air), Orvosi Hetilap, 1876. the same in German: in Deutsche Vierteljahrschrift für öffentliche Gesundheitspflege. 1876. — A talajvizsgálat céljáról és módszereiről. (Aims and methods of soil investigation), Lecture delivered on the festive session of the Royal Association of Physicians in Budapest. 1876.

[17] A levegőről. (On Air), Association of Natural Scientists 1880.

[18] A szénéleg egészségi tekintetben. (Carbon-dioxide from a sanitary point of view), Orvosi Hetilap. 1880. — Egészségtani kutatások a levegőt, talajt és vizet illetőleg. (Hygienic investigations on Air, Soil and Water), Hung. Academy of Sciences, Math. and Nat. Hist. Comm. XVI and XVII. (1880–1881) — the same in German: Braunschweig Vieweg u. Sohn. 1881–82.

[19] Baktériumok az élő állat vérében (Bacteria in the Blood of the Living Animal), Inaugural lecture in the Hungarian Academy of Sciences. 1885. — the same in German: Arch. für Hygiene, 1886.

Rigler[20] *Fodor* pointed out that *"active immunity raises the alcalicity of blood lastingly, while passive immunity only for a short time, it is decreased by toxin and increased by antitoxin"*, furthermore, *"the vaccillation in the alcalicity of blood is not determined by the mineral salts of blood but its organic materials"*.[21] To-day there are other theories in connection with this, nevertheless, the researches of *Fodor* greatly contributed to the creation of immunology and deserve attention. His researches were highly esteemed in his age which is proved also by the fact that during the cholera epidemy in Naples in 1892, *Gantani* suggested the introduction of *Fodor*'s methods in treating the cholera patients. These above-mentioned investigations formed the theme of his lecture delivered on the Congress of Hygiene held in London in 1891.

Partly based on the above-mentioned questions, *Fodor* carried out important researches in the field of social hygiene. This was highly actual at a time when, due to the rapid growth of the population of Budapest, the methods of the past could not possibly suffice. In the last third of the 19th century the building of houses did not keep pace with the increasing number of town-dwellers.[22] In the slums of the capital several thousands of workers lived under insanitary conditions in the unhealthy underground dwellings. *Fodor* investigated the social sanitary aspects of this phenomenon. Together with *Aladár Rózsahegyi*[23] he collected a vast evidence to prove that in these districts the occurrance

[20] Gusztáv Rigler (1868–1930) hygienist, university professor. Obtained his medical diploma in Budapest in 1891. In this same year he became the assistant of Fodor and took an active part in Fodor's experiments referring to immunity. From 1899 onwards became professor at Kolozsvár (today Cluj in Rumania) then in the University of Szeged. Between 1926 and 1930 professor of public health in Budapest. He wrote several text-books and carried out research work in connection with mineral waters and public health affairs of schools. He organised several courses for the training of medical officers of health.

[21] Újabb kísérletek erekbe fecskendezett baktériumokkal. (Recent experiments with bacteria injected into veins), Hung. Ac. of Sciences. Communications, 1886. — the same in German: Deutsche med. Wochenschrift, 1886. — A vérnek baktériumölő képességéről (On the ability of blood to kill bacteria), Hung. Ac. of Science, Communications, 1887. — the same in German: Deutsche med. Wochenschrift, 1887. — Újabb vizsgálatok a vérnek baktériumölő képességéről és az immunizálásra vonatkozólag. (Recent investigations on the ability of blood to kill bacteria and relating immunity), Orvosi Hetilap, 1890. — the same in German: Centralblatt f. Bakt. und Parasitenkunde, 1890. — Zur Frage der Immunisation durch Alkalisation: Centralblatt f. Bakt. 1891. — Über die Alkalizität des Blutes und Infektion: Centralblatt f. Bakt. 1895. XCIII. p. 225. — *Fodor, J.—Rigler, G.:* Neuere Untersuchungen über die Alkalizität des Blutes: Centralblatt f. Bakt. 1897, XXI. 134.

[22] Bécs vagy Budapest az egészségesebb város? (Which is the healthier town, Vienna or Budapest?) Orvosi Hetilap 1882. — Egészségügyi kirándulások Budapesten (Sanitary excursions in Budapest). Orvosi Hetilap. Közegészségügyi melléklet. 1883. — Lakásügy Budapesten (Habitation in Budapest). Orvosi Hetilap, Közegészségügyi Melléklet 1883.

[23] Aladár Rózsahegyi (1885—1896), hygienist, university professor. Obtained his medical diploma in Budapest in 1878. From 1877 onwards assistant of *Fodor* in the Institute of Public Health. In 1878 he studied black death epidemy in Russia. From 1881 onwards university professor of industrial public health.

of cholera, tiphus and disentary is more frequent, and due to overcrowding, the mortality rate is three times as high as in the efficient dwellings. Under such circumstances, filth plays the role of an indicator in the spread of infections.[24]

In connection with his investigations in the field of the sanitary conditions of settlements, mention should be made of his role as adviser in the building of various public and private buildings. He reported on the designs of the central premises of the Medical Faculty of the University of Budapest and supervised it from a sanitary point of view.

He was interested furthermore in the effect of the way of life on health. In his lecture on the *"Hosszú élet feltételei"* (Conditions of long life), delivered in the Academy, he pointed out—based on statistical data—that owing to inefficient food and wrong way of life, the mortality rate and deaths according to the age of people reveal striking differences among the various strata of society. He combined this with the insanitary conditions of dwellings and compared Hungarian statistical data with those of other nations.[25]

In safeguarding the interest of the population, he considered maternity and children welfare as vitally important.[26] He fought for the improvement of the working conditions of women and he suggested that midwives should be controlled by the medical officers in the interest of mothers and infants. He pointed out that similar to epidemics, puerperal fever should be similarly registered by the medical officer and its prevention should be organised properly, since *"each death caused by puerperal fever injures the memory of Semmelweis, the immortal obstetrician of the University of Pest"*.[27]

As regards infant care, he refused the increasing of the number of nurseries, being afraid of overcrowdedness and the spread of infectious diseases as a consequence.[28] He suggested the organisation of infant care on national standards and that of the nation-wide system of medical officers for schools, which propositions are true reflection of his deep humanity.[29] He was the first to raise the question of the medical care of school-children in Hungary, and he was

From 1883 onwards professor of public health at Kolozsvár. Beside research work in relation to the public health of settlements and epidemiological questions he carried out investigations in the field of industrial hygiene especially in connection with work in compressed air and work in the printing industry.

[24] A lakásviszonyok befolyása a cholera és typhus elterjedésére. (Effect of dwelling conditions on the spread of cholera and typhus). Inaugural lecture on the Hungarian Academy of Sciences. Communications of the Hung. Ac. of Sciences, Vol. XIV. 1884. — the same in German: Archiv für Hygiene, 1885.

[25] A hosszú életről (On long life). Annales of the Hung. Ac. of Sciences, 1885.

[26] Nők az egészség ügyében (Women in public health). Itinerary Congress of Physicians and Natural Historians in Tata 1888. — the same in German: Deutsche Medizinische Wochenschrift, 1888.

[27] A gyermekágyi lázról (On puerperal fever). Orvosi Hetilap, Közegészségügyi melléklet, 1882.

[28] A kisdedóvásról szóló törvényjavaslat (Bill on infant care). Orvosi Hetilap, 1890.

[29] Középiskolai hygieniai tanárok és iskolaorvosok. (Teachers of public health in secondary schools). Orvosi Hetilap, Közegészségügyi mell. 1885.

the first in Europe to organize courses for training medical officers for schools. He led this special course in his institute between 1885 and 1901—as it has been mentioned before—and during this period he trained 360 medical officers of schools and teachers of public health.[30] Mention should be made of his book of public health written to secondary schools[31] which was used in Hungary for a long time. He expanded his views on the social welfare of schools and the office of the medical officers of schools in the Communications of the National Association of Pedagogues of Secondary Schools, pointing out that both the control of the hygienic conditions of schools, and the teaching of hygiene is the task of physicians.

The last work of his life was his suggestion on the *"Tisztiorvosi kiképzés és minősítés reformjáról"* (Reforms relating to the training and qualification of medical officers).[32] There he exactly defined the tasks and duties of the district – county – and municipal medical officers of health, and suggested the separation of the work of medical officers from the sphere of activity of practitioners and urged the establishment of hygienic laboratories in each office of medical officers. He stressed the importance of both training and the setting up of national organization of medical officers of health.

After the scientific career of the health-reformer starting from the urging demands of his country, and the presentation of his contribution to science, let us turn our attention towards *Fodor* as a keen observer of public health affairs abroad, his views on the English institutions and *Fodor* as a scientist of wide international relations.

FODOR AND PUBLIC HEALTH IN ENGLAND

Fodor went to England in a period when public health was regarded as an integral part of social progress and became a matter general political, legislative and administrative concern. The second generation of health reformers after *Chadwick* were not only aware of the "national prevalence of sanitary neglect" but realized the urgent need of an institutionalized state control of public health. They focused their efforts on the centralization of health administration, the result of which was the rise of a more and more effective sanitation and hygiene.[33] *Sir John Simon* (1816 – 1904) the first medical officer of health for the City of London (Oct. 1848), later medical officer of the

[30] Egészségtan és egészségügy a középiskolákban. (Hygienics and public health in secondary schools). Középiskolai Tanáregyesület Közlönye, 1886.

[31] Egészségtan a középiskolák felső osztályai számára. (Public Health text-book for secondary schools). Budapest 1886.

[32] Eggenberger, 1898.

[33] For the most recent studies on public health affairs in England in the second half of the 19th century see: *Ruth G. Hodgkinson*, The Origin of the National Health Service (The Medical Services of the New Poor Law, 1834–1871). London 1967. — *Medicine and Science in the 1860s*, Proceedings of the Sixth British Congress on the History of Medicine, September, 1967. ed. by *F. N. L. Poynter*, London 1968.

Privy Council (1858), and his sanitary inspectors were busily compiling annual health reports to keep public consciousness awake and took up effective hygienic measures which have been directed towards the well-being of the people and towards the well-being of their environments.[34]

Hungarian health policy was far less advanced at that time, and the question of securing public health by means of adequate legislation and administrative measures emerged only in the second half of the 19th century, in the period following the Compromise of 1867. (The Public Health Law was not achieved in fact until 1876, although the insanitary conditions in which the villages and the rapidly growing capital existed, demanded it most urgently).

It was *Lajos Markusovszky* one of the foremost figures in the history of public health and education in Hungary, who turned *Fodor*'s attention towards England. He himself had been there before, and was greatly influenced by the activity and achievements of the Chadwickian health reformers. *Fodor* received a scholarship in 1870 which enabled him to spend two years abroad. First he went to Munich to meet *Max Pettenkofer* whose experiments greatly contributed to the scientific development of the young man. *Pettenkofer*, provided him with good introduction to the English colleauges and on his arrival at London he was most heartily welcomed. He met among others *Sir John Scott Burdon Sanderson* (1828—1905), then professor of physiology at University College in London who could provide him with every information he needed, based on his vast experience of his ten years' office as medical officer of Paddington between 1856—1866. He invited him to his laboratory in University College set up by *Sir John Simon* for experimental purposes in the field of hygiene where he worked with *David Ferrier* (1843—1928), then a young scholar.[35] Fodor carefully described his experiences and observations in his travel reports and sent them to the "*Orvosi Hetilap*" (Medical Weekly). As these reports describe his first impressions and lack a deeper understanding of the English public health system, they cannot be regarded as true reflection of the subject. However, they are true reflections of his attitude towards such questions and his wide-ranging interest in everything that has the slightest relevance to public health and hygiene. He describes everything what catches his eyes in the streets, in the buildings of London, in hospitals, and so on but always with a keen eye to sanitary questions. The personal style of his letters, the witty, often sarcastic remarks make his writings a most enjoyable reading, and at the same time reveal his deep interest in and dedication to the subject which characterizes him throughout his official career. He writes, e.g., in one of his letters that he suffers from cold weather, snow, and frost (he arrived at London in December 1870) but immediately adds: "*...it has, however, its lucky moments: i.e. I am able to study the various heating- and ventilating equipments while working*".[36]

[34] For the most comprehensive study on *Sir John Simon* see: *Royston Lambert*, Sir John Simon (1816—1904) and English Social Administration, London 1969.
[35] Cf. *J. Fodor:* Úti levelek (Travel accounts). Orvosi Hetilap XV. (1871), No. 2, p. 29.
[36] See Note 35.

In another letter he describes a reception given in University College, London which he seems to have enjoyed very much. The only Hungarian among the various nationalities, he makes witty remarks on the buffet *"captured by the young priest of Aesculap by phalanx strategy"* where the guests are served with food and drink free of charge, but he concludes his letter in a different mood: *"What else shall I write on? Shall I tell you that Islington district with its 170,000 inhabitants has one medical officer of health and the annual mortality rate is 20 deaths out of 1000, while in Pest there are nearly 100 persons concerned (physicians, surgeons, midwives, coroners, etc;) and 40 out of 1000 people die. Shall I tell you that this one and only medical officer even finds time to do scientific work, while none of the many in Pest can ever afford to do so?!"*[37]

His only criticism is against the proliferation of quackery arising from the fact that medical practice is not regulated properly by the law. He gives a full description of a building called *"British College of Health"* which was dedicated to the memory of *John Morrison* who invented a pill that was regarded as a universal medicine against all diseases. He happened to be passing by the gate of the building when it was a forum of the Anti-Vaccination movement, its walls covered by posters protecting against vaccination. *Fodor* is taken aback by reading the petition asking the abolition of vaccination which was regarded the source of every disease and the poisoning of blood and remarks ironically: *"It seems that the great efforts of the scholars to find out the origin of certain diseases have been all wasted, and must be stopped: one only has got to walk by the gate of the British College of Health every week and wait until the origin of every disease is discovered..."*[38]

Fodor returned home in 1872 and the following year he published his comprehensive work, the summary of his experiences, entitled: *"A közegészségügy Angolországban, tekintettel az orvosügyre, orvosi rendészetre és törvényszéki orvosi ügyre, valamint a hazai viszonyokra"* (Public Health in England with a view to medical affairs, medical jurisprudence, forensic medicine and the conditions in Hungary). In the introduction to his book he remarks that he deliberately chose to describe the public health of England out of all European countries he had studied, because *"it was this country whose public health had attracted my attention most of all and because it is their system which differs most of all from any other system on the Continent, the least known and appreciated"*. He goes on to say: *"In England I have found sanitary institutions the realization of which would bring about drastic changes of progress in Hungary, but at the same time there are institutions, the imitation of which without any criticism would cause disillusionment"*.[39]

The purpose of his book is to render an objective and true picture of the English public health system in order to fill the gap in medical literature relating

[37] *J. Fodor,* Úti lvelek (Travel accounts). Orvosi Hetilap XV. (1871), No. 3. p. 46.
[38] *J. Fodor,* Úti levelek (Travel accounts). Orvosi Hetilap XV. (1871) No. 12. p. 196.
[39] *J. Fodor,* A közegészségügy Angolországban... (Public Health in England...) Budapest 1873, pp. IX—X.

to his field, and, in order to contribute to the spread of practical knowledge of the matters of public health in Hungary: to establish the basis of an effective health legislation and administration. He therefore gives a more detailed analysis of questions which were in the focus of interest in his country at that time, and by which he hoped to accelerate the introduction of hygienic measures. His book is an accumulation of valuable information with an extensive comparative statistical material, and with a collection of evidence from all field of interest relating to public health, a characteristic feature of the whole generation of public health reformers of his age. To render accurate statistical information, to provide the public and the authorities with facts, was the first step towards the advance of public health.

Enquiry into the conditions of public health of a given community leads to the realization of the sanitary needs on national level, and comparisons on international scale can only add to the realization of the state of social welfare, or rather, the ill-health, of one's own environment.

To begin with, in Hungary there were not even reliable figures of the size, constitution of the population, and accurate vital statistics, partly because they were not collected at all, and partly because such evidence, as was collected, was not analyzed and published. In the first part of his works Fodor seeks to give a comparative analysis of the two countries based on the evidence of the statistical data: calculation of rates for births and deaths, increase or decrease of the population, etc. He calls attention to the fact that the statistical figures cannot be always regarded as absolute—in case of Hungary he often has to be satisfied with estimates only—and partly because the methods of registration are not uniform in the two countries. In England the still-births were not compulsorily registrable, and often even infants who died before baptism were not registered, thus birth rates and at the same time mortality rates, too, seemed lower than in countries,—including Hungary—where still-births were also included in birth registers.[40] (In fact the registration of still-births in England became compulsory only under the Act of 1926). *Fodor* is equally interested in the mortality rates of the two countries. The comparisons led him to the sad conclusion that infant mortality is twice as high in his country as in England. As regards the classification of deaths he refers to the difficulties which arise from the different registrations of the causes of deaths. (Farr's International List of the Causes of Deaths drawn up after the First Statistical Congress held in Brussels in 1853) was probably not introduced in Hungary at that time, nevertheless he can demonstrate that the mortality rate of the city of Pest as compared to London is extremely high: the rate of deaths caused by tuberculosis is twice as high as in London. (Unfortunately there was in fact hardly any other town in the world that would have preceded the Hungarian capital in this respect in the 60-s of the last century).[41]

[40] *J. Fodor,* op. cit., pp. 30—31.
[41] *J. Fodor,* op. cit., p. 83.

These comparative statistical figures were the best measures that he could take to make his contemporaries realize the sad state of public health affairs in Hungary and the urgent need to control them. The set of statistical data serves him as background to his analysis of the health policy of England. He gives a short survey of the history of English sanitary legislation, with such milestones as the Public Health Act of 1848—which he publishes in full detail—the Local Government Act of 1858, the Sanitary Acts of 1866 and 1868, and so on. He seems especially impressed by the battle of his English contemporaries against dirt and nuisances, and by the efforts of the medical officers, led by *Sir John Simon* to make a radical improvement of the conditions of the town-dwellers. Their battle for communal cleanliness was won by the improvement of municipal services: continuous water-supply, water purification, sewage system, etc. which achievements were at the same time considered as main means of controlling and stamping out epidemic diseases like cholera and typhoid fever. In *Fodor*'s eyes the Nuisances Removal Acts and Diseases Prevention Acts (passed several times since 1848) and especially the Sanitary Acts of 1866 and 1868 were results of a most enlightened health policy and the basic measures in combating ill-health and the spread of diseases. In short, he was greatly impressed by the activity of *Sir John Simon* whom he undoubtedly resembled as regards deep sanitary sense and wide-ranging interest in all aspects of hygiene. He—like *Sir John Simon*—stresses the need of a responsible central health legislation: *"Without laws the principles and doctrines of public health are sharp swords without any hilts: useless or if used incorrectly—causing much damage".*[42] A central legislation alone may ensure the uniform, homogeneous, systematic development of health policy. But the system can only be effective if the laws are homogeneous themselves and if their execution is supervised by an equally homogeneous organisation. *Fodor* calls for the co-ordination of the various public health authorities instead of the chaotic system of English public health administration. Refusing the labyrinth of local authorities he sets the Privy Council as a model to be realized in Hungary. In his article on the organisation of the English Privy Council and its transplantation into Hungary he maintains that *"since the Privy Council was made responsible for the supervision of the execution of the public health acts, it was able to improve the health conditions even of the worst seed-beds of death in a short time: Manchester, Birmingham and the other gigantic industrial centres ceased to be the cemeteries of the working class and the majority of the English towns including even those with only a few thousands inhabitants are now provided with pure water, healthy dwellings and appropriate sewage system."*[43] He finds that the Council can be effective not only because it is empowered to order sanitary measures but because under the supervision of its Medical Department, qualified officers (sanitary inspectors)

[42] *J. Fodor,* op. cit., p. 179.

[43] *J. Fodor,* Az angol „Privy Council" közegészségügyi hatóságának szervezete, s ennek átültetéséről hazánkba. (On the Organization of the English Privy Council and its transplantation into Hungary). Orvosi Hetilap, Közegészségügy és törvényszéki orvostan (supplement) 1871. No. 3. p. 33 ff.

are regularly sent out to inspect the health conditions of the people. They report continually on what they find and have suggestions if improvements are needed. The Medical Officer of the Privy Council was *Sir John Simon* at that time! Turning his attention towards Hungary, *Fodor* points out that neither of the existing public health authorities can fulfil the task of a sanitary reform: the Department of Public Health in the Ministry of Home Affairs lacks knowledge and accurate informations on the actual situation, the National Public health Council lacks the power and possibility of carrying out the suggested measures. When central institutions fail and the counties based on the principle of self-government have neither initiatives nor ambitions to carry out sanitary reforms there is hardly any hope for improvement. *Fodor* who was most deeply aware of the sanitary neglect of his country where *"the cause of public health was calling for effective help and prompt aid"* regarded the English Privy Council and especially its medical department as the most useful authorities in the service of public health administration.

It is not our intention here to list all aspects of public health, that *Fodor* studied in England and welcomed as models to be adopted in Hungary. A complete analysis of his indebtedness to and also criticism of the English public health system and state of hygiene would exceed the scope of a short essay. Let us refer here again to his thorough examination of the English sanitation, to which achievements he attributed a vital importance. In his early writing on the latrine systems[44], he refers to the Ninth Report of the medical officer of the Privy Council (London 1866) compiled by *Sir George Buchanan* (1831—1895) on the relation of polluted soil and contaminated water to disease before and after introduction of the hygienic measures and gives a detailed, scientific description of the water-closet and sewage system of London in order to set an example before the Hungarian experts. In a lecture delivered on 22 March 1884 on the meeting of the Royal Association of Physicians[45] he again calls attention to the offensive nuisance of the lack of a sewage system and the dangers caused by rubbish and decomposing organic matter if not disposed properly and urges again the canalization of the capital—which had not been realized in the past ten years. He refers to the English town where the introduction of the sewer system and the continuous water supply greatly improved the general state of health. Relying mainly on English sources such as *Parkes'* Manuel of Practical Hygiene, (London 1883), *Bailey Denton*, Sanitary Engineering, (London 1877) he draws up the design of the would-be underground sewer system of Budapest and concludes by saying: *"The present state of canalization in Budapest is insupportable from the viewpoint of public health and sanitation. A complete underground sewer system if designed and built properly and carefully, would safeguard the interest of sanitation and consequently it is to be realized in Budapest as soon as possible."*[46]

[44] Cf. Note 12. pp. 13—15.
[45] Published under the title *„Budapest csatornázása"* (The Canalization of Budapest). Budapest 1884.
[46] *J. Fodor, Budapest csatornázása...* p. 39.

ENGLISH AND OTHER INTERNATIONAL RELATIONS OF JÓZSEF FODOR

József Fodor was a prominent representative of public health reformers, appreciated not only in his native country, but all over Europe and in other continents, too. His writings were translated into foreign languages—primarily into German—and published in several journals abroad.[47] His scientific reputation is well reflected also by the fact that *Weyl* asked him to contribute to his *Handbuch der Hygiene,* as has been mentioned before.[48] He travelled frequently abroad and represented his country in various international congresses and conferences of hygiene. His excellent knowledge of languages was part of the success of his lectures he delivered.[49]

Honours were heaped upon him at home as well as abroad. He was decorated with the order of the Iron Crown by the Hungarian Sovereign. He was awarded the gold medal of Queen Victoria for his heating apparatus presented on the Exhibition of Hygiene arranged in Berlin 1882–1883. But of all his academic distinctions it was the LL.D. of the University of Cambridge which he valued the most. He was admitted LL.D. while staying in England and taking part in the 7th International Congress of Hygiene and Demography held in London in 1891. The Public Orator addressed him as *"cultor bacteriologiae acerrimus"* and among his virtues he mentioned that he *"etiam de Angliae salubritate opus egregium conscripsit".*[50]

He was associate and honorary member of a great number of institutions both home and abroad: to mention just some of the latter: Gesellschaft für öffentliche Gesundheitspflege (Berlin), Verein für Öffentliche Gesundheitspflege (Frankfurt a. M.), The Sanitary Institute of Great Britain, The Society of Medical Officers of Health (London), Società d'Igiene Fiorentina, Reale Società Italiana d'Igiene (Milano), Association internationale pour le progrès de l'hygiène (Brussels), Sociedad espagnol de Higiene (Madrid), Finnish Society of Physicians and Society of Hygiene (Helsingfors), Société royale de médecine publique (Brussells, Société française d'hygiène, etc.

He was engaged in a vivid correspondence with his colleagues and friends abroad. In the *"Fodor-Archives"* preserved in the Semmelweis Medical Historical

[47] Cf. notes 16, 21, 24 and 26.

[48] *J. Fodor, Hygiene des Bodens mit besonderer Rücksicht auf Epidemiologie und Bauwesen,* ui: *A. Weyl:* „Handbuch der Hygiene" Jena 1893. Vol. 1. p. 210.

[49] *"Über die Vorzüge und Nachteile der Luftheizung".* Lecture delivered on the 9th meeting of the Deutscher Verein für öffentliche Gesundheitspflege in Vienna in 1882. — *"Teaching of public health in the universities"* — Lecture delivered on the 5th international congress of Hygiene held in the Haag in 1884. Cf. Annales of the Congress — *"The typhoid fever at Pécs (Hungary) in 1890 in relation with water."* Lecture delivered on the 7th International Congress of Hygiene and Demography held in London in 1891. Cf. Annales of the Congress, etc. etc.

[50] The speech was written by *Donald MacAliz,* St John's College Cambridge, as it turns out from a letter of him dating from 9. September 1891 preserved in the *"Fodor-Archives"* of the Semmelweis Medical Historical Museum and Library. The speech was turned into Latin by the Public Orator, Dr. *J. E. Sandys.*

Museum and Library there is a precious collection of letters he received from all over the world, from Tokio to Washington, from Constantinople to Helsingfors. Among them we can find formal letters, addressed to *Fodor* as President of the Hungarian Society of Public Health, but also—as will be referred to further below—letters which reveal the existence of a deep scientific contact and personal friendship of *Fodor* with experts abroad, above all in England.

In their letters *Robert Koch* (Berlin), *Günther Nothnagel* (Vienna), *Joseph Lister* and *G. V. Poore* (London), *J. S. Billing* (Washington), *Pio Foa* (Torino) acknowledge their appointments to honorary members of the Hungarian Society of Public Health. *Max Pettenkofer's* letter dating from 25. Febr. 1890 and reporting on his wife's death reflects already a more personal contact. His letter from 8 May 1896, is a sad proof of his being by-passed—which he realized himself: "*Ich bin erfreut und hoch überrascht durch diese Auszeichnung,* (hon. member of the Hung. Soc. of Public Health), *denn ich bin als Lehrer und Forscher zurückgetreten, lebe hier einsam auf dem Lande und zähle mich bereits zu den überwundenen Standgunsten, der Vergessenheit verfallend*".

Joseph Lister wrote him on the 23rd July, 1894 when he was elected Honorary President of one of the Section of the approaching Congress—informing him that unfortunately it was impossible for him to be in Hungary at that time.

The editors of the Japanese Journal of Bacteriology under the supervision of Prof. *Kitasato,* director of the Institute for Infectious Diseases ask *Fodor* to send them a photograph of himself to be published in their journal as a "prominent professor" of public health. Fodor sent them copies of his publications which they appreciated very much (23 Sept. 1897).

Donald MacAliz, editor of the Practitioner, a Journal of Therapeutics and Public Health asked *Fodor* to send their library (St. John's College, Cambridge), copies of his works in any language. He says "*I have once had the pleasure of printing an article of yours... It would be a source of pride to me if at some future time I might have the honour of another contribution from your pen.*" 9 Sept. 1891)

W. H. Knight, associate of the Sanitary Institute and Secretary of the Hygienic Referendum (Hornsey) who met *Fodor* on the Congress of Hygiene in London in 1891, sends *Fodor* his own publications asking his opinion "*as whether it would be of any service* (to our country) *if the notes were translated and whether any publisher... would undertake its reproduction*". By a lucky coincidence we know *Fodor*'s answer to this letter: on the blank page of the letter there is a rough draft in English from which we may conclude that the subject-matter of *Knight*'s article was public-health teaching, and in *Fodor*'s views the "tables" and "models" of *Knight* "*would be very useful and instructive in our secondary schools, where hygiene is instructed.*" He promised him to promote the translation and publication of the article. It requires further research to find out whether it in fact became published or not.

Fodor was regarded in England as expert on public health teaching both at secondary school and also at university level. This is demonstrated by the letters of

Isabel White Wallis, another member of the Sanitary Institute, who was *"anxious to make herself aquainted with the way the subject* (Hygiene) *is taught in Buda Pesth"*. She asked *Fodor* to send her a syllabus of the lectures and examinations held in this subject in the university of Budapest (1st April, 1895). On this letter there is again a fragment of *Fodor*'s answer: a detailed description of the manner and scope of Hygiene teaching for medical students in Hungary. Four years later *Isabel Whie Wallis* wrote him again reporting that *Fodor*'s information proved most useful in helping her to draft a scheme for the introduction of Hygiene into the Curriculum of Redford College in London (course of teaching for women). This time (19th May, 1899) she asks *Fodor* for a syllabus of the course *"that would be given to School Medical Men and Teachers of Hygiene"* and also for a *"set of Examination papers set for a diploma to schoolmasters who wished to qualify"*. That she got the required material and found it most helpful in drawing up their syllabus—turns out from her next letter.

A special place is taken up in the *"Fodor-Archives"* by the correspondence of *Fodor* and *William Henry Corfield* (1843 – 1903)[51]. He was medical officer of health for Islington in 1871—1872 and thus it is tempting to think that their aquaintance goes back to Fodor's first travel to England[52]. Their correspondence, however, covers the period berween 1888 and 1900 and since it is known that *Corfield* stayed first in Hungary in 1887—this seems more probable date for the origin of their friendship. The letters of *Corfield* to *Fodor*—some of which containing the drafts of *Fodor*'s answers—are significant documents revealing important facts about the two hygienists: their common field of interest, similar way of thinking and last but not least their affectionate friendship.

They systematically provided each other with publications of their own and commented on each other's writings. In some cases we may only guess the identity of these publications, as e.g. in the case of the earliest letter of the collection dating from the 19th February, 1888, where *Corfield* says he is glad that *Fodor* liked his "book", he had previously sent him. We cannot tell by all certainty which book he refers to, perhaps his *"Digest of Facts relating to the Treatment and Utilisation of Sewage"* (1870), the third edition of which had been published in 1887 a year previous to the date of the letter.

In other instances we have more luck, as in case of the letter dating from 23 Dec. 1896, from which we get to know that *Corfield* sent *Fodor* a copy of his address at Newcastle on the teaching of public health. This letter again contains *Fodor*'s answer saying that he read the pamphlet with great interest

[51] *William Henry Corfield* (1843 – 1903) M.A. MD. Oxon. F.R.C.P. professor of hygiene and public health at University College, London, Consulting Sanitary Adviser to Her Majesty's Office of Works, honorary member of the Hungarian Society of Public Health. Initiated the first hygienic laboratory in London and actively helped to found a museum of practical hygiene in memory of *E. A. Parkes*. Ardent advocate of house sanitation. He originated the successful International Congress of Hygiene held in London in 1891. Participated in the 8th International Congress of Hygiene held in Budapest in 1894.

[52] Cf. Note 37.

and *"met a very interesting and thoroughly well intended definition of the requirement of an examinator"*. He goes on to report on his own efforts: *"On the 11th Dec. I read before the Academy a new series of investigations upon the alcalinity of blood in animals which were injected with vaccina, with toxins with antitoxins. I am sure, the method of investigating the alkalinity of blood in infected animals (a method which I proposed the first on the Budapest Congress of Hygiene is a very precious one...)"*

Corfield knew how deeply *Fodor* was interested in sanitary questions, and before being published, he draws *Fodor*'s attention to an article of his entitled *"Sanitary knowledge in 1800"*, saying *"it will interest and amuse"* him.[53]

There are many references to congress and conference affairs. It was *Corfield* who initiated the successful International Congress of Hygiene held in London in 1891 and as Honorary Foreign Secretary had occasion to write *Fodor* official letters too.[54] But even on these formal letters, only signed by *Corfield* as secretary, we find some informal lines added to the letter with personal good-wishes.

It has been already mentioned that *Fodor* was extremely proud of his degree of LL.D. He asked *Corfield* to order him a Cambridge LL.D. Gown, Cap and Hood to complete his pleasure, and his friend did his best to send him the set he wanted. The scarlet LL.D. gown (now in the possession of our Museum), the scarlet LL.D. hood and a Doctor's cap were sent to him from Cambridge on the 5th March, 1894, and he evidently received them safely.

Corfield came to Budapest for the second time in 1894 to take part in the Eighth International Congress of Hygiene and Demography. *Fodor* received him as his friend and as President of the Organising Committee. He delivered a lecture on the 3rd Sept. 1894 on the joint meeting of the 9th and 10th Sections (Hygiene of Public Buildings and Hygiene of Dwellings—he was the honorary president of the latter) entitled *"The Protection of Dwelling Houses against Sewer Gas"*. On a meeting of the 5th Sept. he and *Dr. Pistor* from Berlin made a proposal *"On the question of Promoting and Enforcing the Asepsis of Towns and Dwellings with regard to Public Cleanliness"*. The resolution of the section was that a special committee should be nominated to examine their propositions and be discussed on the next international congress.

Corfield's letters following the congress refer to the events past and the plans for the next Congress (1897): *"I shall soon stir up the Committee which was*

[53] He publishes here three engravings from *Sir John Harington's* work of extreme rarity, entitled *"A New Discourse of a Stale Subject called the Metamorphosis of AJAX"* printed in 1596 representing an early form of Watercloset and sewage system. cf. *Corfield, W. H.* op. cit. Brit. Med. Journ. Dec. 29. 1900. pp. 1861–1863.

[54] E.g. the letter dating from April, 1891 informing *Fodor* that he had been nominated an Additional Member of the Permanent Hygienic Committee appointed at Vienna—or letter from Sept. 1891 asking him for sending his photograph because it has been decided *"to publish a photographic group of the delegates who were presented to Her Majesty at Osborne.*

appointed to consider my resolutions. The opposition to them has occasioned great astonishment here, where they are regarded almost as axioms".[55]

Corfield's photo and a short review of his career was published in the *Vasárnapi Ujság* (Sunday News) on 23 Sept. 1894, initiated probably by *Fodor*. He sent his friend two copies of the journal—as we learn it from *Corfield*'s letter and the translation of the text referring to him.

When *Corfield* was elected Honorary Member of the Hungarian Society of Public Health—instead of sending the formal acknowledgement to the secretary general, he sent it to Fodor and asked him to bring it before his society, of which he was president at that time.

It is important to know that it was through Fodor's intercession that Corfield's Harveian lectures (delivered in 1893 before the Harveian Society of London) on *"Disease and Defective House Sanitation"* (published in 1896) was translated into Hungarian. It was published in Hungarian in 1900 under the auspicies of the Hungarian Society of Public Health[56] Corfield thanks Fodor for it on 28th Febr. 1900 and tells him that he "feels very pleased" and esteems "it as a very great honour".

Corfield wrote long letters to Fodor, much longer than he wrote to anyone else — as he remarked himself — and he spoke about anything that interested him or happened to him. He spoke about political questions, e.g. the sweeping away of the "Home Rule" Government and the rise of the new "Unionist" Government and its effect on the country (July 29th 1895).

Fodor was among the first whom Corfield told about his appointment of Consulting Sanitary Adviser to Her Majesty's Office of Works, on the very day of the official announcement of his appointment (4th Nov. 1899). It was a newly established office created by the Government and he was its first holder. It is not without interest to quote the passage referring to his new job as he writes "quite freely" of his thoughts: "It is a *consulting* appointment, so it does not interfere with my professorship or with anything else, and does not "tie me by the leg" as most Government appointments do. In fact it is the very thing for me! It merely means that the Government retains my *services for advice in any matters relating to the Royal Palaces and Public Buildings under the control of the office of works. You will at once see, what an important thing this is for your friend. It is what I have been hoping for four years past, though I had no idea how it would come, or if it would ever come, as there was no such post until a few days ago (in fact I may say until today) and I had refused years ago to become merely a Government Sanitary Official of the ordinary sort, preferring to be "a free lance, a decision, which I have never had cause to regret".*

[55] They proposed the frequent removal of all foul matters from the dwellings, smooth paving of streets, that house-drains should be watertight, etc. See: Huitième Congrès International d'Hygiène et de démographie. Comptes-rendus et Mémoires. Vol. 4. ed. by. *Dr. S. Gerlóczy*. Budapest 1896. p. 568.

[56] *Corfield, W. H.*, Betegségek és egészségügyi tekintetben hiányos lakások, trans. by *Ö. Frank*. Budapest 1900.

In this letter he reports to *Fodor* on the building of a *"magnificent new hospital for the University College"*, the sanitary arrangments of which he was superintending. He draws a sketch of its shape and explains his illustration enthusiastically, being *"an entirely new idea"*.

These quotations from the correspondence between *Fodor* and *W. H. Corfield* chosen at random are not only documents of their lasting friendship,[57] but have a great significance from a medical historical point of view: they contain important information relating to the scientific activity of both hygienists, their role as professors of hygiene, and details referring to their participation in international congresses. It would be the task of further analysis to investigate to what extent the two experts of the same wide field of interest influenced each other's thought, how they directed each other's attention to more particular questions of public health. What is the connection between the work of *Corfield*'s Laboratory in London for the practical teaching of public health and the similar laboratory of *Fodor* in Budapest? How did *Corfield*, Professor of Hygiene in University College London supported *Fodor* with ideas and advice, who was holding the Chair of Hygiene in the University of Budapest, equally the first of its kind in Hungary, or vice versa? It would be especially interesting to find out how far their friendship contributed to the development of their ideas regarding sanitary reforms and public health affairs in general.

CONCLUSION

One single person—not even the greatest one—can achieve everything alone. But if not everything—he can do very much. *József Fodor*'s life and work contributed to the foundation of public health as an independent discipline on international scale too, and in Hungary he was the pioneer of public health revolution. His great significance lies in the initiative character of his theories, science, experiments and teaching. If he could not do more, it was not his fault. His contemporaries, the majority of the members of Government realized the importance of social questions and the urgent need of sanitary reforms only later or not even then. It was the small but remarkable group formed by the followers of *József Eötvös* which first realized the demanding need of reforms in central legislation and administration. It is easy to recognise the kindred spirit of the political circle of *Eötvös* and the medical circle of Balassa, which is only deepened by personal contacts. They were uniform in their attempts to create a constitutional bourgeois state and to carry through social and educational reforms. The interaction of the Centralists—as the group of *Eötvös* was called—and the Medical School of Pest was responsible for the creation of a modern scientific basis for the new public health organisation.[58]

[57] *Corfield* survived the death of his friend. He wrote an obituary in the *"Nature"* in 1901 and the one published in the *"Lancet"* on 6. April 1910 can be attributed to him by all probability.

[58] Cf. Note 3.

The greatest organiser of the period was *Lajos Markusovszky*, the excellent physician, the advisor and secretary of *Eötvös* and *Trefort*, whose person symbolizes the continuity of Hungarian public health and higher educational policy in the second half of the 19th century. He was the first to emphasize the significance of public health affairs already in the 1850s and dedicated his journal the *Orvosi Hetilap* founded in 1857 to the service of sanitary reforms. In 1865 he started the supplement of it entitled Public Health and Forensic Medicine where in order to introduce and spread the new ideas in this field. It is important all the more as in Germany *Pettenkofer* already was engaged in chemical and physical experiments for the analysis of hygienic questions and in 1865 he established a periodical entitled "Hygiene".

Lajos Markusovszky's inaugural lecture in the Hungarian Academy of Sciences in 1865 was dedicated in full extent to the cause of public health in Hungary. As opposed to the contemporary view, he pointed out clearly that public health is an independent discipline, and not ony an amalgamation of physiological, pathological, epidemiological and chemical facts. He summed up the essence of public health as science and referred to English examples which he regarded as models for creating a modern public health conditions for Hungary. He spoke about his first-hand experiences in connection with England which greatly contributed to the development of his views. In his lecture he emphasized the importance of information of the public opinion: the experiences of medical practice and scientific research must not be kept in seclusion for a few initiated only but spread among the broad masses of the society, because it greatly influences the success of modern sanitary legislation and administration. "*I do not know, when our country will reach the stage when public health questions could be investigated thoroughly and they will be subject to social activity and legislation... But I hope and wish that some time patriots of deep understanding will emerge, who will pay attention to and promote the cause of public health, the basis of individual and public welfare*"—he said at the end of his address.[59]

For a long time they envisaged the organization of education and public health on an Anglo-Saxon pattern, to be based on voluntary social associations and enterprises. But the Centralists were the first to recognize the necessity of the interference of the constitutional and democratic state in the interest of progression. And to its acceptance the contribution of the leading figures of public education and public health was not on a small scale. The Minister of Public Education, *Ágost Trefort* (1872—1888), declared that "*one of the main conditions for the development of our economy is public health*". His triple slogan: "*public health, economy, public education*", clearly shows the recognition of their interdependence. He understood that public health and public education were economic affairs as well, since they determined the physical and spiritual

[59] *Lajos Markusovszky*, Akadémiai székfoglaló beszéd (Inaugural speech delivered at the Academy), MTA. Értekezések. 1865.

state of one of the major factors of production: manpower.[60] In his letter to *József Fodor, Trefort* set forth the view that *"the political and economic weight of a nation"* depends on the demographic changes.[61]

Let us conclude with a quotation of *Hőgyes*'s memorial address after *Fodor*'s death delivered in the Hungarian Academy of Sciences in 1903: *"He was paragon of a Hungarian university professor fulfilling his task worthily, a scientist and public figure who dedicated his life disturbed by troubles and his ingenious talent for the continuous promotion of public education of his country, whose name despite the passing of his life, will remembered as a pioneer both in the history of public health in Hungary and the general history of hygiene of the world..."*

[60] *Ágoston Trefort,* Beszédek és levelek (Addresses and letters). Budapest 1888. pp. 143, 147, 180.
[61] *A. Trefort,* op. cit. pp. 51–52.

SERVING TWO NATIONS: TIVADAR DUKA (1825—1908)

by MÁRIA VIDA

His life is an outstanding example of how we should keep the memory of those to whom we owe gratitude..."[1] These were the opening words of Sir Aurel Stein in his memorial lecture on Tivadar (Theodore) Duka, the fellow-countryman, who—like Stein himself—became an Englishman while remaining a Hungarian until his last hour. The lecture was sent from Kashmir, then the residence of Sir Aurel, five years after the death of Duka, on the request of the Hungarian Academy of Sciences, but posterity—and his mother country especially—whose contribution to medical history and orientalism was not insignificant. He was the first to draw a detailed picture of Sándor Kőrösi Csoma to both the British and the Hungarian public, and after acquiring the papers of Kőrösi in India he made the works which had appeared only in English or German, available in Hungarian as well. But in the last sixty years Tivadar Duka's memory has not received more appreciations than a few obituaries or memoirs on an anniversary.

FROM THE BEGINNINGS TO THE END OF THE WAR OF INDEPENDENCE

Tivadar Duka was born on June 22 1825 at Dukafalva in Upper Hungary (today in Slovakia). The village had barely 250 Slovak inhabitants, two thirds Catholic, one third Lutheran. The father, Ferenc Duka of Dukafalva and Kucsin was a Lutheran and the lord of the village, a sort of country squire, whose family received the patent of nobility back in 1578. The mother was Johanna Szeghy, a commoner. Many years later Tivadar Duka himself collected the data on the history of his family, using the original documents in the county archives, to give *"some family relics to his descendants living in England"*.[2] One of the ancestors was a general of the Austrian army, the courageous commander of the noted "Duka-regiment". After the fall of the War of Independence in 1849 Duka owed his life to his name—as it was revealed by

[1] *Stein, Aurél:* Duka Tivadar emlékezete. (In Memory of Tivadar Duka) Budapest, 1913. Magyar Tudományos Akadémia elhunyt tagjai fölött tartott emlékbeszédek (Memorial Lectures Held Over Deceased Members of the Hungarian Academy of Sciences), Vol. XIV. No. 9. p. 2.

[2] Ibid., p. 2.

himself later—when while fleeing he was arrested in Pozsony (Pressburg, today Bratislava) but by chance was put under the custody of an officer of the Duka-regiment who let him escape.

At the age of eight the little boy was sent to Sárospatak, the traditional centre of Hungarian Protestantism, and later to Eperjes (today Prešov in Slovakia), where he started legal studies, in accordance with the prevailing custom of the nobility. In 1845 he went to the capital where he received his degree in law at the age of 21. Beside quick grasp and lively interest his studies also revealed assiduous thoroughness. *"It is only through endurance and efforts that one can reach some better object"*, was his opinion in one of his letters when he was barely twenty-two.[3] These words have indeed become his maxim, as it is proved by his life, so rich in trials and new starts, and forced to carry through in a new country.

But at the start his career seemed smooth and promising. Concluding his studies he had an opportunity to go abroad and widen his horizon. An old friend of the family, Captain Trangous, who had lost an arm in the Napoleonic wars, invited him on a tour to be his personal secretary. They went to Silesia where the captain was left at the spa of Gräfenberg while Duka was travelling accross Germany to finish in Vienna. The friendship of the revolutionally minded Trangous left a deep impression on the young man, who was otherwise quiet and mild by nature.

After the revolution of March 1848 Captain Trangous became responsible for the mines of the country, while Duka joined the ranks of the national guard in Buda. He soon had to use his arms. The imperial government had succeeded in making most of the non-Magyar nationalities of Hungary turn against the revolution. Jellačić, the Ban of Croatia, defied the orders of the Palatine (the *Nádor*) and the Hungarian Government and was willing to obey only the Emperor-King. In September 1848 he led his 30 000 troops against the seat of the Hungarian Government, but near the shores of Lake Velence was succesfully stopped by Lieutenant-General Moga and his 16 000 men. Making use of a three day truce Jellačić hurriedly left the country and joined the army of Field-Marshal Windischgraetz, who was enclosing the revolutionary Vienna with 70 000 men. On the request of the revolutionaries and urged by Lajos Kossuth the Hungarian army on October 30 belatedly tried to save the Austrian revolution, but the untrained army of the new recruits was defeated at Schwechat. It was in that battle that Tivadar Duka distinguished himself by his bravery and as a result Artur Görgey, the newly appointed Commander-in-Chief, appointed him his aide-de-camp. From that time on he remained at the side of Görgey, to whom he always remained loyal. Fifty years later in England he wrote an English language history of the Hungarian War of Independence, in which he took up the question of the relation between Kossuth and Görgey. The work wanted to show the foreign public the greatness of the commander

[3] Tivadar Duka to Antal Reguly. Vienna, September 15 1847. MTA (Hungarian Academy of Sciences) Kézirattár. Levelestár.

and by reciting the events of the war tried to refute the charges of treason often laid up against Görgey.[4] Görgey, too, spoke of the young Duka with appreciation in a letter written in 1902. He described how the aide-de-camp of his general staff, a lieutenent of the *honvéds* from November 1848, set an example with his bravery in the first battle of Komárom (April 29 1849) and by that revived the spirits of the troops already on the point of retreating. *"... and I had no need to do more for restoring the morale of the men but to point at the living equestrian statue on top of the mound."*[5] Görgey's appreciation was also shown by his letter sent to Duka's widow: *"It appears that the life that started in the small village of Dukafalva in the county of Sáros and came to an end in the peaceful seaside town of Southbourne in England greatly exceeded in value and significance all everyday measures. With him I buried a man's greatest treasure, a true and brave friend."*[6] The value of this opinion can be best appreciated if one considers that Görgey had always abhorred "big words" and was stern in his judgements.

Until the surrender at Világos (today Siria in Rumania) on 13th August 1849 Duka fought together with Görgey, from May as a captain. Although the personal staff of the Commander-in-Chief was also promised free withdrawal, after the persecutions and some months' imprisonment Duka decided to emigrate. Once more he spent some time at Gräfenberg to cure his starting tuberculosis, then found a temporary hiding-place from the "sleuth-hounds" of the Austrian police on the estate of Baroness Uckermann near Dresden.[7] Still in 1849 he left for Leipzig and arrived in Paris at the beginning of 1850.

THE EMIGRATION AND ITS NEW ROLE

One road taken by the fugitives led towards Turkey, the other ran through Vienna and Hamburg with England or America as the destination. In a talk delivered some decades later when on a visit to his homeland Duka said a few words about this period: *"The consequences of Világos led us in various directions. My impaired health directed me to Gräfenberg where I spent several months, then with friendly help I proceeded to Paris with the intention to take up the study of medicine which was to be me future profession..."*[8] But for most of the exiles Paris meant only a temporary stop as its "police democracy" could offer neither

[4] *Duka, Tivadar:* Kossuth and Görgey. Hertford, 1898. Cf. *Busbach, Péter:* Egy viharos emberöltő. (A Stormy Span of Life) Budapest, 1898.
[5] *Stein, Aurél:* Op. cit. p. 4. Quotes the text of the certificate.
[6] *Schächter, Miksa:* „Duka Tivadar" *Gyógyászat,* Vol. 1908. No. 48. p. 369.
[7] *Stein, Aurél:* Op. cit. p. 7. — The Baroness Uckermann was the widow of Árpád Lo Presti, an officer of the Saxonian Army. Material on this period of Duka's life was placed at Stein's disposal for study by the widow of Duka.
[8] *Duka, Tivadar:* Első benyomások Kelet-Indiában. A hindu társadalom alaptörvényei. (First Impressions of East India. The Basic Laws of Hindu Society) (Lecture held in the Society of Physicians and Pharmacists of Zemplén County on 29th January 1888.) Sátoraljaújhely, 1888. p. 3. Cf. *Vasárnapi Újság,* 1888.

security nor perspectives for a new life. It was in Paris that Duka established a warm relation with Count Gyula Andrássy, who was to be Prime Minister and later Austro-Hungarian foreign minister after making the Compromise with Austria together with Ferenc Deák; with László Szalay the historian, who had represented the Hungarian Government in 1848 in Frankfort, Paris and later in London; and with István Türr, who later made his name famous as general in Italy under Garibaldi and who cut the Isthmos at Corinth Duka recognized the hopelessness of his situation in Paris and turned his attention towards England.

In the early 1850's England was the only place in Europe where foreigners were not subject to molestations by the police and civil liberties existed not only on paper but in everyday life as well. For the sounder and more moderate part of the exiles finding a living was considered the most essential and England offered the best opportunities for that.

The endless row of the fugitives started already in the 1830's: Poles followed by Germans, French, Italians, and Russians. In the beginning of 1850 the Hungarian colony started to grow, the politicians were joined by journalists, officers and soldiers. It was not an easy task to arrange for all of them to learn the language and find some occupation. Some of them had to take up a new profession: Ferenc Pulszky wrote novels, Miksa Schlesinger the physician edited a lithographic print in English, Surgeon-Major Mátyás Róth popularized Swedish-movements (kinesiatrics). Some, like the barrister János Xantus, left for the United Sates after many unsuccessful attempts to find some occupation.[9]

Duka arrived in England in the first part of 1850 in the company of Türr, whom he probably had already known as another aide-de-camp on Görgey's staff. His presence in England is testified by a letter sent by Pulszky to Kossuth in the middle of 1850, which informs the former Governor that the officers get on well with each other, dissociating themselves only from Duka, Görgey's aide-de-camp.[10] Duka indeed remained the loyal supporter of Görgey and was later in favour of restoring Hungary's rights by peaceful means, but was the first to sign a declaration of loyalty to Kossuth in 1852 when the London exiles answered the accusations of two former ministers, Count Kázmér Batthyány and Bertalan Szemere, who attacked Kossuth in the press.[11] This did not, however, change the feelings of Kossuth and his followers who had no confidence in Görgey's man, although a former colonel of the *honvéds*, Miklós Kiss, who later became a confident of Kossuth as one of the leadres of the

[9] *Jánossy, Dénes:* A Kossuth-emigráció Angliában és Amerikában. (The Kossuth-Emigration in England and America.) 1851—1852. Vol. I. Budapest, 1940. p. 79.

[10] Ferenc Pulszky to Lajos Kossuth. London, July 30 1850. Budapest, Országos Levéltár. (National Archives) Kossuth-hagyaték.

[11] Declaration of Allegiance to Kossuth by the Emigrants in London. London, February 19 1852. Budapest, Országos Levéltár, Kossuth-hagyaték. Cf. Jánossy: Op. cit. Vol. II. p. 564.

emigration and who known Duka from when he was head of the garrison of Buda, spoke highly of him in a letter sent to Kossuth, which described the differences of opinion among the exiles: *"There are, however, some excellent men here, whom I feel my duty to recommend to Your Excellency. Their dexterity and firmness... can be relied on under all circumstances. They fall into two groups: the first do not need any financial assistance... on the basis of my intimate knowledge I can list Captain Duka among them..."*[12] Duka in fact lived on the remnants of his fortune and did not accept any help from the fund of the Hungarian emigrants.

Thanks to his linguistic gifts he soon mastered the English language and started to study medicine. He was a student at St. George's Hospital founded by Sir Benjamin Br odie, where he had clinical practice as part of the training. Here he found a lifelong friend in the person of George Pollock, who years later had the following to write about him: *"I have watched him since he first became a pupil at St. George's Hospital: and I can truly say, that it has never been my lot, to meet with one more devoted to his profession; more capable of competing with its difficulties; or more honorable in the exercise of his practice."*[13] George Pollock was the son Sir George Pollock, a general in British India, who consolidated British power there following the first Afghan War. These were the last years of the government of the East India Company and it was due to Pollock's help that at the end of 1853 after passing his last examinations and receiving his degree Duka was immediately appointed field surgeon of the Bengal Presidency settlement. He sailed in the same year to take up his new profession under the tropical sun.

MEDICAL ACTIVITIES IN BENGAL

Travelling was still a tiresome business in the middle of the 19th century, as it was testified by Duka in a later lecture delivered in Hungary. *"In the years preceding the Crimean War travelling from Paris to the Mediterranean, i.e. Marseille, was accomplished mainly by means of the diligence as the railways still only partially completed in that part of France. In Egypt one was conveyed first on the old Nile canal up to Bulak, hence across the desert on carts drawn by mules or on camels; in East India, too, railways were built only later..."*[14] By taking this route Duka arrived in Calcutta on 14 February 1854 and started his medical service lasting for a quarter of a century until he retired in April 1877. Soon after his arrival in India, at the end of 1855 he married the sister of Charles Taylor, another fellow-student, whose father was Doctor of Divinity

[12] Miklós Kiss to Lajos Kossuth. London, March 5 1852. Budapest. Országos Levéltár, Kossuth-hagyaték.
[13] George Pollock to Endre Kovács. London, October 15 1866. Budapest. Semmelweis Orvostörténeti Múzeum. Történeti Dokumentáció XI.
[14] *Duka, Tivadar:* Első benyomások... (First impressions...) p. 4.

in Oxford and the head of the Hereford diocese. Thanks to his abilities and probably to his family connections he was soon appointed medical officer of an important district, Monghyr near the Ganges. This was a more responsible post than the treatment of a regiment.

In order to see the difficulties of his task it might be worth while drawing a sketch outlining Indian medicine and Indian medical affairs.

The earliest medical theory in India is attributed to Dhavantari, the physician of the Indian temple of Gods. It was based both on theory and empirical practice and was divided into eight sections. It must have been an advanced discipline, since some primitive dissections were performed as early as around 800 B.C. The best known early Indian medical works (Charaka in the 1st and Susruta at the end of the 4th century A.D.) are also good examples. Later, however, it moved towards theory under the influence of the Arabic school and due to the Hindu rules of cleanliness. At the time of the arrival of the British Indian medical and surgical practice was rather backward.

In 1807 the British Government sent out Dr. Buchanan to report on the situation. He found the following: "*In Behar* (the northwestern part of Bengal) *medicine is taught by a few pundits, that is learned brahmans, some of whom are practising, too, using the books of Saranggadhar, Babhat and Chakradatta. The first came from the caste of the brahmans but it is not known where he lived and what he accomplished. There is similar ignorance about the other two authors as well. Those who carry on medical practice have pupils in their homes whom they introduce into their knowledge. In addition to them there are about seven hundred brahman families practising medicine and about hundred and fifty barber-surgeons who do cupping and scarification and treat festering wounds.*"[15] There was a separate class called *hardekhakat* whose task was the feeling of the pulses "*which is considered a very important operation and is connected with lots of ceremonies especially at the Hindus.*" The lowest and completely distinct group is made up by the midwives and the "exorcizers": "*The midwives belong to the caste of the pariahs whose sole duty is to cut the naval string. In addition there are the ajhas, all of a low caste, whose task is to cast out evil spirits, the treat snakebites and to make witchcraft ineffective by means of incantation.*"[16]

The first systematic medical school was set up by the British in 1822 in Calcutta where native doctors were trained under the supervision of European physicians. It took more than twelve years until European medical training prevailed upon the Arabic system and two regular courses were set up, one in Hindi, one in Bengali. After considerable opposition in 1835 even dissection was introduced in the medical college founded in the previous year. The initiative came from an Indian, Pundit Madhusudun Gupta, who started a regular dissection of corpses on 10 January 1836.[17] Several Indian physicians studied

[15] Quoted by *Tivadar Duka* „Az orvosi tudomány állása Kelet-Indiában" (The State of Medical Science in East India) *Orvosi Hetilap*, 1861. No. 18. p. 392.
[16] Ibid.
[17] Ibid. p. 394.

in London, while in India medical schools were established in Madras, Bombay, Agra, and Lahore, in addition to Calcutta. A medical faculty was established in Calcutta in 1856, two years after Duka's arrival in Bengal.

Monghyr is a large district south of the river Ganges, the meeting point of three markedly distinct geographical-historical units: the wide and densely populated delta of the Ganges covering the whole of Bengal, with a damp, enervating and unhealthy climate but a fertile soil; the for Europeans more favourable Bihar-basin, one of the ancient cultural and religious centres of India since Gautama Buddha, and finally the sparsely inhabited barren mountainous district between the two formers with the remnants of the primitive, old non-Aryan tribes. Monghyr lies on the great waterway of the Ganges, between Calcutta and Patna, the capital of Bihar. The Sepoy Rebellion had its repercussions on events in Monghyr: although it did not reach it, all European women, including Duka's wife, had to return to England for safety reasons.

The task facing Duka was formidable: he had to organize health affairs in a town of one million and a half where all the basic requirements like hospital —organization or permanent supply of medicines were missing. He had to supervise the hospitals and the infirmaries run by native assistants, had to implement measures necessary to control or prevent periodic epidemics so common in the subtropical regions, and even had to give medical aid to the inmates of the district prisons. Most of the time of practising doctors was taken up by fighting intermittent fever, cholera, dysentery and the plague. Together with his colleague Dr. Bedford, he made an interesting remark in a report prepared in 1855 at the request of the governor of Bengal: "*Inoculation from smallpox, which has been in use among the natives for centuries, is more dangerous than vaccination from cow-pox, but it seems to be the only certain protection.*"[18] While in Europe inoculation did not prove successful in the fight against smallpox and only vaccination as proposed by Jenner could provide the only effective check against the epidemic, in India the opposite method led to the same results.

In Bengal Duka soon acquired a thorough knowledge of the state and system of Indian medicine as it stood before the introduction of European medical training. Some years later he sent the results of his investigations to the Hungarian medical press, which was the first information here on ancient Indian medicine.[19] Among its two sources—Hindu and Arab—the first was the older based mainly on empiricism, on the Ajur-Veda (the science of knowledge). Later the Muslim school drew much from it without ever acknowledging it. The Hindus had attempted dissection well before Hippocrates in about the 8th century, B.C., but it contributed only to a better knowledge of the bones as it was performed after keeping the corpse under water for seven days and

[18] *Duka, Tivadar:* Kelet-indiai Monghyr a Ganges partján (Monghyr of East India on the Ganges), *Orvosi Hetilap,* 1860. No. 26. p. 515.

[19] *Duka, Tivadar:* „Az orvosi tudomány... Kelet-Indiában" *Orvosi Hetilap,* 1861. No. 18. pp. 353–356. and No. 20. pp. 391–394.

then tubbing of the cuticle with a wisp made of bamboo-downs which prevented the examination of the blood-vessels, the nervous system or even the muscular system. Another significant aspect of ancient Indian healing was the advanced stage of surgery even by 19th century standards. For example it knew four methods for stopping the flow of blood: styptic medicaments, ice, caustics and by using burning iron. They were also skilled in cupping and scarification possessed the necessary tools for all that.[20]

Later on medical practice developed in the direction of exactness when the Bagdad school (Geber, Ali Abbas, Abulcasis, Avicenna, etc.) was introduced, which was partly based on the works of Hippocrates and Galen. Both Hindu and Muslim prejudices contributed to the discontinuation of dissections and surgery was equally despised. The result was that the upper-class Hindu doctors, the *kabiraj*, acquired only theoretical knowledge in Sanskrit. Listing their studies Duka mentions naduna, i.e. internal diagnostics and its interpretation as the first and main subject. That covered the causes of the disease, its prehistory, the present symptoms, diagnosis, pathology, and finally meditations on the diversity of body fluids. In addition those preparing for the medical professions had to study therapy, pharmacology and dietetics (ratnavali, chakrapanidatta and puthyá pathya), the physiological effects of medicines, hygiene (raja valluva) and finally the meaning of medical terms (paribhásha).[21]

Teaching based only on "doctrines" did not bring practical results, especially not in the fight against the recurring epidemics which regularly decimated the population. In spite of that—due to religious and political considerations—it took twelve years until European medical practice based on empiricism was accepted and could take roots.

Duka remained in Monghyr until 1862. It was here that he became interested in orientalism and recognized that any study of the modern Indian dialects was inconceivable without a thorough knowledge of Sanskrit or Persian. As his medical duties took up most of his time he studied mainly the second, the standard language of Muslim India. His books and manuscripts presented later to the Hungarian Academy of Sciences bear testimony to his studies.

By acknowledgement of his medical and administrative services in 1866 he was appointed to Simla, the summer seat of the Viceroy and the government, and two years later to the mountain station of the nearby Kasaul to be medical supervisor of the Lawrence Asylum, whence he was transferred to Darjeeling in 1870. This last station was the true remuneration of his medical services. Here he could study Tibetan Buddhism, on which Sándor Kőrösi Csoma spent most of his life. This place offered the best ground for preparing to write his major literary work, the life of the great Hungarian oriental traveller. At this beautiful part of Sikkim Buddhism was a living force drawing its inspiration, customs and even its priests from Lhassa, "the Rome of Tibet". Darjeeling was the residence for a long time of all the European pioneers

[20] Ibid. pp. 355–356.
[21] Ibid. p. 393.

of the study of Buddhism, including Brian Hodgson, a close acquaintence of Kőrösi Csoma, and of Wadell in the second part of the 19th century.

Duka's commission came to an end in 1874 when he was retired as lieutenent-colonel and now he could return to England.

IN THE SERVICE OF ANGLO-HUNGARIAN SCIENTIFIC RELATIONS

Despite the great distance, soon after his arrival in East India Duka set before himself the task of informing the Hungarian public about the past and present of the Indian world. For most Europeans India was a magically sounding name and there had been no first-hand account on it in the press of Hungary.

His first writings were sent to the *Orvosi Hetilap* (Medical Weekly) founded in 1857 by Lajos Markusovszky, whom Duka had known as the physician and life-long supporter of Görgey. In a letter in April 1860 he expressed the confidence he felt while watching the new developments of Hungarian cultural life. *"How happy the heart of the far-away living Hungarian is when extricating himself from his indifference towards public affairs nearing despair he can again look hopefully westward and see that materially and intellectually the ill fate that befallen on his country was only an ordeal by fire, during which we could learn how much we were worth."*[22]

Duka's articles appearing in *Orvosi Hetilap* and *Gyógyászat* were the first medical publications in Hungary dealing with tropical subjects. In addition he wrote on Indian life and customs, the geography of Bengal and the sceneries visited for *Vasárnapi Ujság* (Sunday News) and *Budapesti Szemle* (Budapest Review). Already in 1858 he wrote to the Hungarian Academy of Sciences concerning Kőrösi Csoma's manuscripts, publications and tomb. In 1864 he was the first to publish authentic data on Csoma's life in *Budapesti Szemle.*[23] Besides, Duka also often sent home objects of art and specimens of natural history with a view to augment the collections already existing in Hungary.

After nine years of service, in 1864, Duka obtained his first leave of absence to visit Europe together with his family. Due to the general amnesty he had the opportunity to see his country after fifteen years. His first visit took him to Klagenfurt where Görgey was still living in exile. He could not be present when three years later the returning general was greeted by his faithful friends including the two well-known physicians, Lajos Markusovszky and Sándor

[22] See note (18), p. 514.

[23] *Duka, Tivadar:* „Kőrösi Csoma kéziratai, nyomtatványai és síremléke ügyében a Magyar Tudományos Akadémiához." (To the Hungarian Academy of Sciences Concerning the Manuscripts, Publications, and Tomb of Kőrösi Csoma.) *Magyar Akadémiai Értesítő,* 1858. — „Kőrösi Csoma útja Közép-Ázsiában" (Kőrösi Csoma's Route in Central Asia) *Vasárnapi Újság,* 1863. — „Adalék Kőrösi Csoma életiratához" (To Kőrösi Csoma's Biography), *Budapesti Szemle,* 1864.

Lumniczer, but István Görgey, the younger brother,—with whom Duka had established a life-long friendship—gave him account of the event.[24] Their correspondence reflects the lively interest Duka took in the negotiations leading to the Austro-Hungarian Compromise, in Ferenc Deák's activities and in Görgey's returning. Besides informing his friend on the developments taking place in Hungary István Görgey also helped Duka in publishing his writings and regularly sent him the Hungarian periodicals.

Already on his first visit to Hungary Duka established contacts with both the Academy and the Society of Physicians: he was elected member of both. He was also elected corresponding member of the Academy in 1863 and held his inaugural lecture during his 1864 visit. In the next forty-four years, until his death, his constant effort was to keep contact between the Hungarian Academy and the scientific life of Britain and India. It was through his mediation that Spencer Wells, the successful initiator of ovariotomy, and three Bengalian orientalists, Arthur Grote, Stephen Atkinson and Radja Rajendralala Mitra, were elected foreign corresponding members.

From 1864 there is a marked increase in the number of the English (especially London) members of the Royal Hungarian Society of Physicians. It is strongly probable that Duka had no small part in it. In the case of George Pollock and Ranald Martin it is even proved as the archives of the Society preserved both their original letters of thanks and the Hungarian translation in Duka's handwriting.[25] At the extraordinary session of the Society on May 6 1864 Duka spoke on his medical experiences obtained in Bengal.[26]

Before he returned to India in 1866 the cholera—after ten years' break—once more broke out in Hungary. It spread mainly over the counties of Pozsony, Nyitra, Komárom, Esztergom, Pest and Fejér and lasted until the end of March 1867.[27] In Pest alone the number of the ill rose from 3526 to 10 260 in one week, out of them 3005 recovered and 3089 died.[28] In the next week 8069 recovered and 8509 died out of 23 407.[29] The centre of the epidemic was the capital where 50 per cent of the cases occured.[30] As to the spread of the disease the accepted view was that it was the result of some harmful material developing during the putrefaction of the excrement of those ill with cholera, therefore

[24] István Görgey to Tivadar Duka. Pest, September 18 1867. MTA Kézirattár. Levelestár.

[25] George Pollock to Endre Kovács-Sebestyén. London, October 15 1866. — James Ranald Martin to Endre Kovács-Sebestyén. London, October 11 1866. Budapest. Semmelweis Orvostörténeti Múzeum. Történeti Dokumentáció XI.

[26] *Salacz, Pál:* A budapesti Kir. Orvosegyesület jubiláris évkönyve 1837—1937. (The Jubilee Yearbook of the Royal Society of Physicians in Budapest.) Budapest, 1938. p. 163.

[27] *Gortvay, György:* Az újabbkori magyar orvosi művelődés és egészségügy története. (The History of Medical Culture and Public Health in Modern Hungary) Budapest, 1953. p. 240.

[28] Data based on statistics prepared by *Lipót Grósz. Orvosi Hetilap,* 1866. No. 44. p. 728.

[29] Ibid. No. 45. p. 745.

[30] All together there were 48 845 cases in the country, and 21 556 died.

their excrement was treated with a 10 per cent solution of sulphate of iron. But the prophylaxis or the aetiology of cholera was yet unknown.

The main item on the agenda of the physicians's association on September 26 1866 was a lecture by Tivadar Duka on the subject of the cholera epidemic based on his twelve years of practice in India. He said that Dower-powder or opium generally used against diarrhoe was not suitable for quelling the epidemic as they might bring about coma, always frequent in cholera. In India the only effective remedy in the first, diarrhoeic phase of the disease is "cannabis indica" which causes neither headache nor stupor. He recommended another effective medicine: essence of the grass of Indian hemp, and chlorodyne (made of ginger) which is common in nearly all European household. The two medicaments, first used by Collis Browne, have been found effective by the medical council of the British Army in checking the cholera in India.[31] His lecture was expanded into an article *"Némely megjegyzések a kolera támadása és gyógykezelése körül"* (Some observations concerning the attack and treatment of cholera)[32] where besides hygienic problems he considered the periods of atmospherical and temperatural changes as the main causes. In India one can observe three "cholera-periods" in each year, he said. The first occurs in the days of transition into hot and dry weather when the fluctuation of temperature is between 12 and 57 degrees centigrade. The second is the monsoon period in August – September and the third is around Christmas. Another interesting observation was that in Bengal the epidemic was marked by very high mortality at its beginning, which later fell considerably and many people recovered. It follows that *"not medicament but prevention is the heart of the matter: under the tropical climate the span between health and the grave is frequently not more than a couple of hours."*[33] Opium and its products (liquor opii sedativus, Jeremie's Opiate) may also prove effective in bringing diarrhoe under control—when used under a doctor's supervision. But all that applies only to the first stage of the cholera. In the second and third stages only careful nursing can help. *"The sparing of vigour, the retaining of body heat by wadding and rubbing, finally stimulants and when the time comes easily digestable but strong food—this is what one can do for the patients in the hope of success."*[34]

While European medical practice proved itself helpless in prevention and in the solution of the aetiological problems well until the middle of the 19th century, in India the primary aim was to give a practical answer to these question. Duka quoted Ranald Martin with full approval: *"if you restore my health, perhaps I will not owe you even thanks, but you will be my greatest benefactor if by heeding your advice I can prevent the occurance of the trouble."*[35] This at-

[31] "The Royal Society of Physicians in Budapest on the Cholera", *Orvosi Hetilap*, 1866. No. 43. p. 692. — A report on the session.
[32] The article appeared in *Orvosi Hetilap*, 1866. No. 43. pp. 741 – 751.
[33] *Duka, Tivadar:* "Some Observations Concerning the Attack and Treatment of Cholera", *Orvosi Hetilap*, 1866. No. 43. p. 749.
[34] Ibid. p. 750.
[35] Ibid. p. 749.

titude—also shared by the representatives of the ancient Indian medical school—can be explained by the frequent and regular appearance of waves of epidemics due to tropical climatic conditions.

Both native and British physicians practising in Bengal used a common name, "climatic aliments" for the periodic epidemics: cholera, intermittent fever, plague, leper.[36] Duka followed both European and Hungarian medical literature with great interest and complemented it with his own observations. Reflecting on Virchow's article on leper which appeared in 1860 he added that in the East the disease is transmitted from the father to his sons and is most frequent between 23 and 40. Leprosy was already known in ancient India, Charaka spoke of a more dangerous and a milder sort, which can be subdivided into seven and eleven subclasses respectively. After enumerating the symptoms (ill health, hypertrophy of the epidermis at some places, the loss of pigment on the face, hands and toes) Duka recommended some medicaments used by native doctors: arsenic, the fluid moisture of Asclepias gigante and chalmugra oil.[37]

Several years later he spoke in the Society of Physicians on another common tropical disease, fever. He quoted statistical figures showing that in India out of 1000 deaths 38.9 are caused by fevers while cholera, smallpox and other abdominal diseases are responsible for 32.1.[38]

The importance of his treatises on infectious diseases imported from the tropics lies in the fact that they had been written years before Robert Koch's discoveries, and that he published his own and other people's experiences obtained in the East in the Hungarian medical press. He was the first to make aetiological observations on "cholera Asiatica", and gave informations to Hungarian medical circles on Indian practice concerning the clinical pattern and the course of the cholera in the 1860's. In Hungary the first systematical work on cholera appeared only in 1873 written by Frigyes Korányi.[39] Effective treatment was introduced only after 1884 following the discovery of its pathogen by Koch who also established the methods of fighting it down.

After his retirement from the Indian Service Duka set out to widen the connections between Hungarian and British scientific life. His aim was not only to make the best results of English medicine known in Hungary but at the same time was concerned with the other aspect of the question too and aspired to make such names as Semmelweis or Sándor Kőrösi Csoma internationally known.

[36] *Duka, Tivadar:* „A Gangesz parti éghajlati bajokról" (On the Climatic Ailments Along the Ganges), *Orvosi Hetilap*, 1860. No. 24.

[37] *Duka, Tivadar:* „A poklosságról" (On Leprosy), *Orvosi Hetilap*, 1861. No. 11. pp. 211–212.

[38] *Duka, Tivadar:* „Némely megjegyzések Kelet-Indiában, különösen a Himaláják tájain előforduló lázak jelenségeiről" (Some Observations on Fevers Occuring in East India, especially Near the Himalajas), *Orvosi Hetilap*, 1881. No. 29. p. 679.

[39] *Korányi, Frigyes:* Az ázsiai hányszékelésről. (On Asiatic Cholera) Budapest, 1873.

He settled down in South Kensington, then known as "Asia Minor" after the many retired Indian and other colonial officials residing there. One of his two sons became a barrister while the other, Albert, followed the father's steps and became a physician. As field surgeon he took part in the Boer War and won the Distinguished Service Order after the battle of Elands River Camp.

Tivadar Duka was elected member of several scientific societies like the Royal Asiatic Society, the British Bible Society, St. George's Hospital and of course the Hungarian Association in London. He invited Hungarian scientists into Britain, sent the Library of the Hungarian Academy English and Indian books on medicine and orientalism. According to the evidence of his surviving correspondence such relations became more intensive from the 1880's onwards. E.g. Ármin Vámbéry the noted explorer and orientalist in 1885 informed him of his willingness to comply with Duka's request and give a talk in the Hungarian Association.[40] Duka was in permanent contact with the Librarian of the Academy, Pál Hunfalvy and later in the 1890's with his successor, Ágost Heller. He sent Hunfalvy the works of Rajendralala Mitra and the latter's thanks for the commemoration of Atkinson.[41]

Duka never missed an opportunity to visit Hungary and personally work for the intensification of the relations. He delivered memorial lectures on several corresponding members of the Academy whom he had known personnaly. The first of these was held in 1881 on the explorer William Stephen Atkinson, "the Indian patriot" as he was called by Rajendralala Mitra. In 1892 and 1899 he had to fulfil this sad duty on Mitra himself, on Arthur Grote, and on Spencer Wells, the pioner of ovariotomy.[42]

In 1885 he was invited to attend the International Medical Congress in Buda-Pest and was elected chairman of the section dealing with tropical diseases. Another aspect of his activities was to represent the British and Foreign Bible Society in 1890 at the celebrations organized by the Academy to commemorate the 300th anniversary of the death of Gáspár Károli, the Hungarian translator of the Bible.

[40] Ármin Vámbéry to Tivadar Duka. Newcastle, May 3 1885. MTA Kézirattár. Ms 5069/176.

[41] Tivadar Duka to Pál Hunfalvy. Torquay, December 22 1881. MTA Kézirattár. Levelestár.

[42] *Duka, Tivadar:* Emlékbeszéd William Stephen Atkinson felett. (Memorial Lecture on William Stephen Atkinson) Budapest, 1881. — Emlékbeszéd Radzsa Radzsendralala Mitra felett. (Memorial Lecture on Radja Rajendralal Mitra) Budapest, 1892. — Emlékbeszéd Grote Arthur felett. (Memorial Lecture on Arthur Grote) Budapest, 1889. — Emlékbeszéd Spencer Wells felett. (Memorial Lecture on Spencer Wells) Budapest, 1899.

THE FIRST SCHOLARLY APPRECIATION OF KŐRÖSI CSOMA

Twenty-five years of medical practice and the many duties found in London did not lead Duka to give up his old dream, to write a serious biography on Kőrösi Csoma for the Hungarian readers. Later he recollected that on arriving in India *"It was my determined intention to learn about the experiences of Sándor Kőrösi Csoma, of whom I had first heard as a student at Eperjes."*[43]

Soon after his arrival in Calcutta—where Kőrösi had spent most of his last years—Duka started to collect personal memories and remembrances on him. Although Kőrösi led, only twelve years before (on 11th April 1842), the gathering of data was quite difficult, partly due to the modest, withdrawn hermit's life Kőrösi lead, and partly as a result of the changes frequently occuring in the British administration. Finally he succeeded in getting hold of copies of Kőrösi's manuscripts through the help of Arthur Grote and Rajendralala Mitra, the librarian of the Asiatic Society, and in the archives of the Calcutta High Court of Justice he found a case with "Alexander Csoma de Körös" written on it. The iron box contained various writings left behind by the scholar when he set out for Lhassa, on his last journey. The only surviving trace of this bequest is the list of the contents—published by Duka in his monograph—because when three years later he returned to Calcutta he found that all the writings had been destroyed.[44] In 1856 Duka made his pilgrimage to the cemetery of Darjeeling, to the lonely grave of his compatriot. Later on he himself looked after the grave, taking over the duty from the English physician Collins.

Through thirty years Duka was engaged in collecting data and prepared the first Hungarian biography of Kőrösi Csoma for the hundredth anniversary of his birth—also celebrated by the Hungarian Academy. Before finishing the book Duka once more returned to Bengal to complete his researches in the Calcutta archives. Here he was greatly helped by one of the secretaries of the government called Durand and by the board of the Asiatic Society of Bengal in finding some new documents.

The Hungarian version—modestly called a "biographical sketch"—appeared in 1885 on the initiative of the Academy, and in the same year an English edition also came out in London.[45] The Hungarian biography entitled *"Kőrösi Csoma Sándor dolgozatai"* (The Works of Sándor Kőrösi Csoma) included also twenty-one articles of Csoma which had appeared in various English periodicals or existed only in manuscript-form.[45/a]

[43] *Dula, Tivadar:* Kőrösi Csoma Sándor dolgozatai. (The Writings of Sándor Kőrösi Csoma). Compiled and introduced with a biography by —. p. 157.

[44] *Duka, Theodore:* Life and Works of Alexander Csoma de Kőrös. A biography compiled chiefly from hitherto unpublished data. London, 1885. p. 164–165. Here Duka told the story of the iron casket and gave a list of its contents.

[45] See above, (44)

[45/a] The published works of *Sándor Kőrösi Csoma*:
Csoma de Kőrös, A.: Eassy towards a dictionary, Tibetan and English. Calcutta, 1834.

This work was Duka's most important achievement. It did not only clear some of the misunderstandings then prevailing around the personality of Csoma but was at the same time an important contribution to orientalist literature. He wanted to raise a wide interest in Hungary in the branches of orientalism, and at the same time wanted to make Hungarian science better known in England and Europe. Besides, his was the first serious evaluation of the life-work of Kőrösi Csoma based on authentic biographical data. Part of his endeavour to establish orientalism in Hungary was his role in making the already mentioned orientalists corresponding members of the Hungarian Academy. Rajendralala Mitra, then the greatest scholar of Sanskrit, looked upon Csoma as the greatest European export of Tibetan literature up to the middle of the 19th century.

Already in the mid eighteen twenties there were some Englishmen aware of the Hungarian scholar and Csoma could continue his travel and work with the help of the Bengal Government. Csoma finished his Tibetan dictionary at about that time and won the support of Horace Hayman Wilson, a scholar of Sanskrit, the secretary of the Asiatic Society. Csoma's first literary discoveries were reviewed by Wilson already in 1831 in the Calcutta journal "Gleanings of Science".[46] The reviewed article was in fact an introduction to his Tibetan dictionary listing those men who had already made a serious study of Tibetan literature: Adelung, the author of Mithridates; Pallas, a Russian traveller; and Klaproth and Rémus from the beginning of the 19th century. Through Hodgson, the English envoy in Nepal, the Asiatic Society obtained several Tibetan Buddhist books, but the indispensable dictionaries and grammars were still missing.[47] That is why Csoma could obtain British support for his plans. His article *"Translation of a Tibetan Fragment by Alexander Csoma, with notes"* appeared in the 1832, in the first volume of the *Asiatic Society Journal.*[48] Most of Csoma's writings appeared in India but before 1885 there

—: A grammar of the Tibetan language in English. Calcutta, 1834.
—: Subhashita Ratna Nidhi = Journal of the Royal Asiatic Society of Bengal. XXIV, XXV, Calcutta, 1855, 1856 (edited by A. Campbell); also VII, 1911.
—: Mahavyutpatti. Royal Asiatic Society of Bengal. Memoirs I–IV. Parts I–II, Calcutta, 1910, 1916. (edited by Sir Denison Ross and Satis Chandra Vidyabhusana) Part 3, 1944 (edited by Charan Chaterjee)
—: The life and teaching of Buddha. With a preface by W. W. Hunter. Calcutta, 1957.
Kőrösi Csoma Sándor: Ázsiai levelek és más írások. (Letters from Asia and other writings) Selected, introduced and notes by János Heller. Budapest, 1949.

[46] The first notice on the notes made by Kőrösi Csoma on his arriving in Calcutta in 1830 was written by Horace Hayman Wilson. Gleanings of Science, 1831.

[47] See above, (46). The only exceptions were: Giorgi Alphabetum Tibetanum, studio et labore Fr. Augustini Georgii, Eremitae Augustiani, editum Romae 1762. Quarto. p. 820; and the collection of Tibetan words made by Marscham (Serampore, 1826). Csoma saw the latter only in 1830, having finished his dictionary in 1830. See (43), p. 120.

[48] Translation of a Tibetan Fragment, with Remarks by Dr *Wilson.* Journal of the Bengal Asiatic Society. 1832. Vol. 1. p. 269. — Cf. Duka (43), pp. 165—175.

was hardly anything written on him, except a note by Wilson published after his return to Oxford as professor of Sanskrit, in the Journal of the *Royal Asiatic Society*, edited by himself.[49] But even the modest Csoma could not find it satisfactory and made some corrections in his own copy of the journal. Unfortunately, however, Duka was unable to find this volume, only a letter written on 28 January 1825, where Csoma had put down the authentic data of his own life.[50]

One year and a half after Csoma's death Archibald Campbell, the British Agent in Bengal, who was present at the scholar's deathbed and performed the last religious service at his grave, urged the Asiatic Society of Bengal in a letter to prepare Csoma's biography. "*It is now more than a year and a half since we lost him, but we are as yet without any such record in the Journal of the Society, to show, that his labours were valuable to the literary Association, he so earnestly studied to assist in its most important objects.*" Such a study would prove, he continued, that Csoma's zeal and efforts are duly appreciated by the Society.[51]

[49] *Wilson, H. H.:* Biographical Sketch of M. Alexander Csoma de Kőrösi, a Hungarian Traveller, extraced from a letter addressed by that gentleman to Captain C. P. Kennedy. Journal of the Royal Asiatic Society. 1834. Vol. 1. p. 128. — Duka quoted a letter by Campbell who owned the book after Kőrösi's death. See Duka (44) p. 16.
In addition one must mention Léon Feer's Analyse du Kandjour, recueil des livres sacrés du Tibet, par Alexandre Csoma de Kőrös. Traduit de l'anglais et augmenté de diverses additions et remarques par –. Musée Guimet. Annales, 2, Paris, 1881.
Further works on Kőrösi Csoma appearing after 1885: *Baktay, Ervin:* Kőrösi Csoma Sándor. Budapest, 1962. — *Debreczy, Sándor:* Kőrösi Csoma Sándor csodálatos élete. (The Amazing Life of Sándor Kőrösi Csoma) Sft. Gheorge, 1938. — *Francke, A. H.:* Die Fragen des Alexander. *Ungarische Jahrbücher* VIII. Berlin, 1928. — *Kara, György:* Kőrösi Csoma Sándor. Budapest, 1970. Cf. Duka: Kőrösi Csoma Sándor dolgozatai (The Writings of Sándor Kőrösi Csoma) Budapest, 1885. — *Laird, M. A.:* "The contribution of the Serampole missionaries to education in Bengal. 1793–1837." *BSOAS* XXXI, London, 1960. — *Ligeti, Lajos:* „A jugarok földje" (The Land of the Yugars) *Magyar Nyelv* XXVII, 1931. — *Ligeti, Lajos:* Ouvrages tibétains rédigés á l'usage de Csoma. T'oung Pao. XXX, Leyden, 1933. — *Nagy, L. J.:* "Tibetian books and manuscripts of Alexander Csoma de Kőrös in the Library of the Hungarian Academy of Sciences." *Analecta Orientalia* (BOH V) Budapest, 1942. — *Németh Gyula:* Kőrösi Csoma Sándor célja. (The Aim of Sándor Kőrösi Csoma) Budapest, 1935. — *Ross, E. Denison:* Kőrösi Csoma Sándor. Kőrösi Csoma Archivum II, 1930. — *Schmidt, József:* Kőrösi Csoma Sándor. Kőrösi Csoma Archivum I, 1935. — *Simon, Walter:* "Tibetian lexicography and etymological research." Transactions of the Philological Society. London, 1964. — *Szilágyi, Ferenc:* Kőrösi Csoma Sándor hazai útja (Sándor Kőrösi Csoma's Journey in Hungary) Kőrösi Csoma Kiskönyvtár I. Budapest, 1966. Cf. *Bethlenfalvy, Géza:* in *Acta Orient. Hung.* XIX, 1966. pp. 376–377. —*Stein, Aurél:* Duka Tivadar emlékezete (In Memory of Tivadar Duka) Budapest, 1913. — *Újfalvi Sándor* emlékiratai (Sándor Újfalvi's Memoirs), edited by Farkas Gyalui. Kolozsvár, 1941.

[50] Alexander Csoma de Kőrös to Captain C. P. Kennedy, Commanding Subathoo, January 28 1825. — Duka, note (44), pp. 24–32.

[51] Duka, note (44), p. 1.

The rather small circle of orientalists in Europe soon learned about Csoma's activities and preserved his memory after his death. But in spite of the fact that his Tibetan grammar and dictionary were for long regarded as standard works, the many trials and self-sacrifices he had to encounter in his pioneering work had remained practically unknown before the appearance of Duka's writing. The main reason for the lack of interest showed for his person could be explained by the discovery that Tibetan literature was mostly a mere translation from Sanskrit or from old Indian Buddhist writings.

In his native Hungary, where patriotic feeling was on the increase, the public was captured by the scholar who accepted all the sacrifices and set out on foot without any support to find the original homeland of the Hungarians in the wilderness of Central Asia. The first news about his secientific achievements reached Hungary belatedly in the 1830's: they stirred national pride but his researches into Tibetan Buddhist literature could not raise much interest as the study of oriental disciplines had hardly started. The withdrawing nature of his personality also added to the strangeness around him, so he became a kind of legendary figure. Despite his popular name the noted Hungarian linguists of the last third of the 19th century, standing on the platform of modern comparative linguistics *"relegated him among those noble enthusiasts, in Hungary always to be found in abundance, who discarding critical methods and led only by the Fata Morgana of imaginary etymology sought to connect the origins of the Hungarian nation with all the centres of ancient Asian culture in turn: Assyria, China, India, etc. ad majorem gloriam patriae."*[52]

On the other hand one can find general interest for his personality already in the 1820's. One of his letters dated March 1 1820, which Csoma intended to be his will in case he would disappear on his journey, found its way with the help of Henry Willock to Csoma's relatives and to his former teacher at Nagyenyed (today Aind in Rumania), József Kovács. Here Csoma stated *"that he left his country aiming to find the origins of the Hungarian nation and elaborating its early history."*[53] Receiving this news the public in Transylvania and all over Hungary arranged a large-scale collection and the journal *Tudományos Gyűjtemény* (Scientific Collection) also offered help. Actually the first note about him appeared already in 1820 under the title *"Nevezetes magyar utazó"* (A Noteworthy Hungarian Traveller) when Sámuel Gyarmaty wrote a letter to the editor, Lajos Schedius. *"Mr Kőrösi is a Transylvanian Székely who having finished his studies in his native land and led by the love of knowledge decided to give his life to the finding of the home of our ancestors."* After giving an account of Csoma's geographical and linguistical studies he asked the journal for its support.[54] A similar "memorandum" was drawn up in the following year by István Kultsár emphasizing the national significance of finding the traces of the origin of the Hungarians.[55] But the enthusiasm of the Hungarian

[52] *Stein, Aurél:* Op. cit. p. 23.
[53] *Tudományos Gyűjtemény,* 1825. No. 1., pp. 9–10.
[54] Ibid., 1820. No. 10., pp. 121–122.
[55] Ibid., 1821. No. 5., pp. 67–88.

press and public for Csoma's eastern travels meant only support for his intention of finding the original Hungarian homeland, but later, seeing that Csoma was concerned mainly with oriental studies, the interest sagged.

Duka in his introduction spoke not only about Wikon but mentioned Karl Huegel, an Austrian traveller, too, who had personally met Csoma and related their meeting in his book written on Kashmir.[56] The memorial lecture delivered by József Eötvös was based on Huegel's data but Duka proved that Huegel's facts were erroneous.[57] Consequently the biography written by Duka can be rightly described as the first detailed work based on correct data and original documents found in the archives of Bengal. On the basis of this archival evidence it was possible to solve the seemingly contradictory role attributed to Csoma by Hungarian patriotic feeling and pure orientalistic science, namely that in Csoma's mind the two tasks were one and the same. After Duka's death a letter was found written in 1832 by Kőrösi Csoma to the Austrian Ambassador in London, which shows that Duka was right in his conclusions. According to the letter Csoma's aim was *"to find the original homes of the Hungarians, to collect historical data on their deeds and also to look into the analogies to be found between the various oriental languages and our tongue"*.[58]

Already in 1864 Duka presented a study on Kőrösi to the Academy which was discussed by the session of November 7 – 14 in the same year, thus calling the nation's attention once more to Csoma's personality. In the book Duka drew a detailed picture of Kőrösi's carreer. After speaking about the family, the birth, studies at Nagyenyed, Göttingen, Temesvár and Zagreb, Duka described Csoma's start in the last days of November 1819. After many vicissitudes and sufferings he crossed Turkey, Egypt, Persia, visited Buchara, then Kabul to reach Lahore and Kashmir. Unfortunately the biographer could not give a detailed description of this heroic undertaking, only enumerated the names, places and dates, as his only source was Csoma's official report prepared for the Government of India at the end of 1824 in Sabathu.[59]

We learn that the original intention of Kőrösi was to reach Chinese Turkestan, the innermost basin of Asia, through the Karakorum passes, where he hoped to find traces of the migration of the Hungarians and of the Huns, whom —following popular Székely tradition—he considered to be the relatives of the Hungarians. But the anarchic and dangerous state of things prevalent in Central Asia twice forced him to turn back, so he did not forestall Sir Aurel Stein's archeological explorations. Duka proved that as a result of the forced turning

[56] *Huegel, Karl:* Kaschmir und das Reich der Seik. Stuttgart, 1840/1848. Cf. *Duka,* (44), pp. 16 – 17.

[57] *Eötvös, József:* Magyar írók és államférfiak. – emlékbeszédei. (Hungarian Authors and Statesmen. Memorial Lectures by –) Budapest, 1868. Sándor Kőrösi Csoma pp. 21 – 47. Cf. MTA Évkönyvei (MTA Yearbooks), 1844. VII. pp. 1 – 32.

[58] *Stein, Aurél:* Op. cit. p. 24. — This important letter was found only after Duka's death and it supports the conclusions reached in the biography. It was in the possession of H. H. Wilson and was granted to the Hungarian Academy by the latter's grandson, A. H. Wilson, in 1909.

[59] See note (50).

back the dreaming pursuer of the Hungarian homeland became a genuine scholar of the Tibetan language during two years. As it happened Csoma got acquainted with the noted British explorer William Moorcroft in Kashmir who helped to bring about the contract between Csoma and the Indian Government. (This contract and its fulfilment was first described in details by Duka.) In Ladakh, in the lama monastery of Zangla, Csoma studied Tibetan language and literature at length, and after returning to Calcutta he prepared the dictionary and the grammar. The biographer gives a vivid account of the strange and lonely life within the walls of the Bengal Asiatic Society, where Csoma lived greatly esteemed but completely withdrawn, meeting occasionally only some orientalists, Wilson and Prinsep.

In the 1830's not only the promised dictionary and grammar appeared but other studies as well, the results of his researches in Buddhist monasteries. Duka published them in Hungarian as a supplement to the biography. Most of them were concerned with Buddhism: its moral and religious doctrines, Buddha's life, his sacred books Kahgyur and Stangyur the various Buddhist sects, etc. In addition he prepared the detailed geographic description of Tibet, making use of Tibetan sources as well.[60]

Some of the records show that even during his serious Tibetan researches Csoma did not give up his dream of entering Central Asia and finding there the ancestors of the Hungarians. Even in possession of a deep knowledge of the Tibetan language he did not abandon his strange etymological fantasy to prove the special relationship existing between Hungarian and Sanskrit. In view of the fact that comparative philology was then still far from being exact and that Csoma could hardly learn about the methods of the new branch of linguistics, these etymological games look natural and do not deserve too serious a verdict. Although Duka published these articles, too, and even a comparative collection of Sanskrit, Hindi and Hungarian words, he laid the emphasis on the role of Moorcroft, the man who directed Csoma to the virgin soil of Tibetan philology.[61]

There was another essay presented by Duka which deserves our special interest: *"Egy tibeti orvosi munka ismertetése"* (Review of a Tibetan medical work),[62] which was supposed to be the most important medical work translated into Tibetan by the lama of Zanskari monastery. Kőrösi was struck by the lama's familiarity with such disciplines as grammar, arithmetics, rhetorics and poetry, while *"medicine, astronomy and astrology are his professions."*[63] It shows that in 19th century Tibet medicine was one of the most important

[60] *Csoma de Kőrös, Alexander:* Geographical notice of Tibet. Bengal Asiatic Society's Journal. 1832. Vol. 1. p. 122. Cf. Duka, note (43), pp. 325–332.

[61] It should be remembered that the relationship of Indo-Aryan Sanskrit with Persian, Greek, Latin, Germanic, Celtic, Lithuanian, and Slavic languages was established by comparative linguistics at the beginning of the 19th century.

[62] Review of a Tibetan Medical Work by Alexander Csoma de Kőrös. Bengal Society's Journal. 1832. Vol. 1. p. 122. Cf. *Duka*, note (43), pp. 325–332.

[63] Alexander Csoma de Kőrös to Captain C. P. Kennedy. Subathoo, May 5th 1825. — Cf. *Duka*, note (44) pp. 41–65., quotation om. p. 42.

sciences. That is supported by the fact that the lama was the chief medical man of Ladakh, too. *"He has given a complete account of the human body, specifying every member, articulation, fluid substances and distempers thereof, so fully as it is required for an intelligent physician to know the structure of our body."*[64]

In the introduction Buddha (Shakya) himself dwells on the significance of medicine and says that its knowledge is a virtue: *"those who lay claim to the respect of others should know how to cure"*.[65] The importance of medicine is also shown by the fact that it fills five books in the sacred Stangyur and occupies a place equal to literature and alchemy, while there are occasional references to medicaments in Kahgyur as well.[66]

Another interesting observation in Csoma's study concerns the basic requirements for mastering Hindu medicine. These are: the roots or the foundation, the interpretation of theory, direction, and finally manual skill—that is a widespread combination of theory and practice. In enumerating the eight branches of curing, besides the general diseases they distinguished between infantile, female and senile diseases, and there was a distinct class for the directions aiming at the increasing of masculine power. Similar distinction was given to surgery, toxicosis and mental diseases.[67]

Duka followed the lonely scholar on his last way to Lhassa at the age of 58, until Csoma's body, weakened by the many hardships and the effects of the tropical climate, fell victim to fever in April 1842 at Darjeeling. Duka ends his account with the memorial set up by the Bengal Asiatic Society and with the donations made by Kőrösi Csoma to his native Székely-land. These included the Kenderessy-Csoma endowment for the College of Nagyenyed for enabling an outstanding student to study abroad, the endowment given to the school at Kőrös and 100 gold sovereigns given in 1836 to the military school of Kézdivásárhely (today Tîrgu Secuesc, Rumania).[68]

In addition to the biography Duka was successful in helping the Hungarian Academy of Sciences to acquire "Csoma-relics", his books, letters and other belongings. Duka himself made an endowment in the Academy that triannually —(in April, the month when Csoma was born and died)—one of the members should deliver a "Kőrösi Csoma lecture" in the field of orientalism, a custom duly started in 1900. He also took the initiative that a statue of Csoma should be erected, which did not materialized before his death. A marble bust of the scholar was set up in 1910 in the lecturing-hall of the Academy, and its bronze copy was given to the Bengal Asiatic Society.

[64] Note (63) p. 44.
[65] Note (62), p. 2.
[66] Analysis of the Kahgyur and Stangyur. By *Alexander Csoma de Kőrös*. Bengal Asiatic Researches. Vol. 20. Part. 2., pp. 553—585.
[67] Note (62)
[68] *Duka*, note (44), pp. 160–161.

FOR THE RECOGNITION OF SEMMELWEIS

The wide interests of Duka are amply shown by the fact that even in the emigration, far-away from Europe, he noticed Semmelweis's epoch-making discovery, which was for long hotly debated by physicians in the continent and was acknowledged and adopted only after decades of fighting. As is well known, Semmelweis published his *Aetiology* in 1860, trying to prove his theory. Duka read Markusovszky's review of the bock in *Orvosi Hetilap,*[69] but even before that he had heard about the lecture delivered in the Society of Physicians. The first attack was made by August Breisky, professor of the maternity school in Prague, and Markusovszky reported it in the July 7 issue of his journal, simultaneously calling attention to Tivadar Duka's article on the discovery in the 1860 February issue of *The Indian Lancet.*[70] Here Duka summed up Semmelweis's views and after making a comparison with English practice, expressed his full agreement with the use of chlorine water for washing the hands. He even recommended the changing of cloth in the critical moments and added with irony that even a temporary abandonment of practice may be justified. His statement bears special significance as it was made directly defore the appearance of the "open letters".

Even later in England Duka never ceased to propagate Semmelweis's cause. English medical opinion learned about the gist of the discovery through him, who wrote an article on it in 1886, which appeared separately two years later.[71] It was this writing which called Lister's attention to Semmelweis.

In England the first news about Semmelweis appeared already in 1849 when C. H. Routh gave an account of what he had seen in Vienna.[72] It was followed by several articles both in Britain and on the continent, but the first comprehensive monograph appeared only in 1885 from the pen of J. Bruck.[73] That was Duka's primary source on Semmelweis's career and writings. Bruck emphasized that in Semmelweis's opinion promaine was not the sole cause of puerperal fever but—to quote Hebra's words said in 1850—"*the cause inducing puerperal fever can be regarded as an infection by injurious excretion, originating in a living organism.*" Duka finished his article by quoting Dr. Dorn, who said in 1886 referring to Semmelweis's statistical figures that in Germany the sad days so seriously judged by Semmelweis were already over, but in spite of that nobody can question his merits.[74]

That Lister's attention was directed at the Hungarian protagonist of asepsis-antisepsis indeed by Duka is verified by the British discoverer of antisepsis

[69] *Orvosi Hetilap,* 1861. Nos. 10., 12., and 14.
[70] *The Indian Lancet,* 1860. No. 3., pp. 35–36.
[71] *Duka, Theodore:* "Childbed Fever: Its causes and prevention; a life's history." *The Lancet,* 1886. pp. 206–208., 246–248., Hertford, 1888.
[72] Transactions of the Royal Medical and Chirurgical Society. 1849.
[73] *Bruck, Jakab:* Semmelweis Ignác Fülöp. Budapest, 1885.
Bruck, Jacob: Ignaz Philip Semmelweis. Wien, 1887.
[74] Zeitschrift zur Geburtshilfe und Gynaecologie. Bd. 12. Heft 1. 1886.

himself in a letter sent to Hungary, answering an inquiry by Weckerling concerning his knowledge of Semmelweis. The answer was that Lister appreciates Semmelweis but he had not even heard of him until a few years before, not even when he visited Budapest, and he was first told about him by Tivadar Duka in London.[75]

Later on Duka delivered a memorial lecture on Semmelweis in London in the Royal Society of Obstetricians. He won influential supporters to the idea of erecting a statue, including Sir Andrey Clark, Sir Spencer Wells, C. J. Cullingworth, and the first herald, Dr. Routh. In 1894 Duka came to Budapest to lay wreath on the newly erected tomb of Semmelweis.

In 1906 an international memorial session was held in Budapest commemorating Semmelweis. Duka himself was already too old and ill to be present but sent his physicians on instead. He also took an active part in the preparations: as member of the international committee for a monument to Semmelweis he was a go-between of the Hungarian organizing committee and the British physicians.[76] For his activities he received—together with Vilmos Tauffer, Tibor Győry and Gusztáv Dirner—the silver Semmelweis memorial medal, which he deserved well.[77]

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Less than two years after the Semmelweis celebrations Duka finished his rich life at the age of 83, on 5th May 1908.

Although it was the result of accident, due to the fall of the fight for freedom in his own country, he served two nations and can justly claim commendation from both. His words said about Sándor Kőrösi Csoma may apply to himself as well: "*...the memory of his unselfish, modest, likeable character will be preserved by the scholarly world and his compatriots as well...*"[78]

[75] *Benedek, István:* Semmelweis és kora (Semmelweis and His Times) Budapest, 1967. p. 436. Cf. Godlee.

[76] *Dirner, Gusztáv* (ed.): A nemzetközi Semmelweis-emlék Budapesten. (The International Monument to Semmelweis in Budapest) Budapest, 1909. pp. 20–26. — The "International Monument to Semmelweis" was founded on October 24, 1892, as it was reported by *The Lancet*, 1892. Oct. 29.

[77] Ibid. (note (76)), p. 133.

[78] *Duka, Tivadar*, note (43), p. 152.

THE SOCIAL POSITION OF PHYSICIANS IN HUNGARY AT THE TURN OF THE 19TH AND 20TH CENTURIES*

by LILLA VÁRADI

THE SPHERE OF MEDICATING ACTIVITIES IN HUNGARY

As regards legal orders, the activity of physicians in Hungary was regulated in the last third of the 19th century in concordance with the demands and spirit of the age. Due to the introduction of the uniform training of physicians in 1875[1] and the drawing up and ratification of the Public Health Law in 1876[2] Hungary was among the first countries in Europe in the training of physicians and in medical legislation.[3] But for lack of the necessary conditions, the codifications of the law could not he materialized.

In Hungary at that time no one was entitled to practice except those holding a doctor's degree issued by any university in Hungary. Consequently doctors' degrees obtained at foreign universities had to be nostrificated. Without this state certificate a practicing physician was considered a quack and had to be punished accordingly. This usage was quite different from the practice in Germany where thanks to the trade law anybody was allowed to cure. Quackary was controlled in some other way. The Hungarian practice was accompanied by a difficult administration which resulted in the relatively small number of immigrated physicians.

In 1980 the number of the physicians in Hungary was only 4805.[4] One physician was responsible for an average of 3300 inhabitants, while in France

* Hungarian historiography and researchwork has not given a deep analysis of the social position and public role of the physicians at the turn of the 19th and 20th centuries. Consequently, the basic questions of this subject-matter has not been elucidated yet. The solution of these questions requires an intensive research work. The present publication is rather a methodological study reporting on the partial results achieved in the research of this subject. Without thriveing for completeness, the article aims at rendering a concised picture on the basis of the relatively coherent examples. (Editor)

[1] Order No. 19. 349 issued by the Hungarian Royal Ministry of Religion and Education in 1875.

[2] Public Health Law; Act 1876: XIV.

[3] Varga, L.: Adatok hazánk közegészségügyének a múlt század második felében történt országos rendezéséhez. Népegészségügy 1960, 6, p. 173. (Data concerning the national regulation of public health in Hungary at the second half of the 19th century.)

[4] Magyar Statisztikai Évkönyv (Hungarian Statistical Almanac) VIII, 1900, Budapest 1901. p. 63.

this number was 2300, and in the German Empire 2200.[5] Considering the number of physicians per 10 000 inhabitants, the comparison among the three countries is conspicuous: In Hungary the avarage number is 3.03, in Germany and France 4.54.

Health service did not change considerably as compared to the data 5 years before. According to the report of the Ministry for Home Affairs in 1895 the number of physicians in Hungary was 4033.[6] In addition there were 391 surgeons entitled to practice by the former law, i.e. there were altogether 4424 persons concerned about health treatment. The population of Hungary at that time was 15.5 million (regarding the territory of the historical Hungary). Analysing the areal distribution of the doctor's settlement, the stagnation of the number of physicians is even more conspicuous. A great majority of the physicians lived in towns. In the second half of the 19th century, due to the bourgeois development, more and more settlements were granted municipal rights in case of a sufficient number of inhabitants. In the modern sense of the word and even compared to the contemporary major towns, these towns were retrograde from the point of view of culture and style of living, nevertheless, they assured a better atmosphere for the doctor's development than contemporary villages and countries and farmsteads. In these towns a greater majority of inhabitants was concentrated on a smaller territory, and by means of building new public roads the availability of both patient and doctor became ever so much easier and quicker than among people living scattered in vast territories. Healing activity was dependent on distance and its financial side, i.e. traffic costs. Though the country-even on account of its isolation—demanded a better health administration, there were regions where practically no doctor was available. The number of vacant districts was about 150, and there were districts which included 40—50 villages.

The counties which were the most retrograde as regards the number of physicians were the following:[7]

Counties	*Number of inhabitants*	*Number of Physicians*	*Surgeons*
Árva	84,950	9	2
Kis-Küküllő	108,765	16	—
Fogaras	92,145	9	1
Ugocsa	83,267	12	1

These data suggest that the task of the physicians in question was immense, especially if we bear in mind that these regions were poverty-stricken. Besides in these underdeveloped regions physicians were responsible not exclusively for curing their patients but had to try to take up the fight with the circumstances in order to eliminate the possibility of large-scale infections and epidemics. But there was no physician who could succeed in it, moreover, their

[5] Országos Orvos-Szövetség (National Association of Physicians) (monthly paper) 1900. 2. p. 15.
[6] National Archives B. 49. 250 (637).
[7] Magyar Statisztikai Évkönyv, op. cit. p. 61.

financial state was often on the verge of a subsistance wage. Being unable to make a living out of his medical practice, a physian had to work e.g. as an insurance agent and deal with ground-rent in order to be able to sustain his family of four.

In 1895 in 63 counties of Hungary the total number of physicians was 2806, 1618 of which concentrated in towns.[8] The population of the counties was 12 640 663, that of the towns 2 659 339. This unfavourable distribution was even increased between 1893 and 1900, when the percentage ratio of physicians kept by towns increased from 31% to 40%. These data alone confirm that there were great differences in the chances of physicians, in the possibilities of development, and in the costs of living as well as the duties which fell on them.

The majority of the physicians seemed to have endevoured to settle down in Budapest, the capital of Hungary. Consequently, this was the only place in the country which was owercrowded whith physicians. Their ratio was one physician per 600 men, which is remarkable considering their means of support. Nevertheless, the majority of the physicians preferred Budapest, which can be explained by the fact that specialists,—appearing parallel to the scientific development in the 19th – 20th centuries—did not want to be away from the intellectual atmosphere of the clinics promoting scientific development, at least not at the beginning of their career. Even later on they insisted to towns where their practice seemed to be more efficacious. This latter factor must have seriously influenced the majority of specialists, and serve as an explanation for the great disproportions in the areal distribution of physicians in towns and villages. To get a better view of what we have said so far let us quote the evidence of some major towns with the exception of Budapest—where the number of physicians seems satisfactory but far from being redundant.[9] These

Municipal Town	*Number of inhabitants*	*Number of Physicians*	*Surgeons*
Budapest	716,476	1,268	10
Szeged	100,270	52	2
Szabadka	81,464	32	—
Hódmezővásárhely	60,824	20	—
Kecskemét	56,786	23	1
Győr	27,758	22	—
As a comparison:			
County Győr	97,045	11	2

data alone doesn't permit us to draw conclusions referring to the social position of the physicians. Beyond the regional distribution of medicating physicians we have to examine the average distribution of medicating physicians we have to examine the average distribution between official and private doctors, and have to analyze the spirit of medical regulations and their effects in the everyday practice of health administration.

[8] Ibid.
[9] Ibid.

SOCIAL POSITION OF PHYSICIANS AT THE TURN OF THE CENTURY

Contemporary press and literature inform us that the lack of appreciation of the medical profession and healing activity hindered the further development of the physicians in his special field, the efficient curing and social respect. In Hungarian literature of the turn of the century the doctor's figure is only seldom dexcribed. This lack of interest denotes a social judgement which is further increased by the rough-and-ready representation of the physician's social position appearing in the works of art.

A coherent picture of the social position of the physicians is rendered in the historical novel of Mór Jókai,[10] entitled "Rab Ráby". Though the scene of the novel is set in the 17th century, the described picture is true for the second half of the 19th century. The novel introduces the figure of the doctor who is defenseless against the "allmighty county", who cannot exercise his duties if they happen to hurt the interests of the county. The example—taken from a fiction—might be an extreme one, nevertheless, it is rather remarkable, that the doctor's figure in other novels or short stories is similarly a negative character. A further analysis of the specific features of Hungarian society could render us further data conserning this question. Until then it has to be accepted as a fact that a kind of social defencelessness and unjust social subordination was a general feature of the positions of physicians in Hungary at the end of the 19th century. It does not refer to university professors and a few respected physicians who were socially recognized due to their personal career. Again a further analysis would be needed to establish the differences which separated the famous professors who founded and furthered schools from the wide strata of physicians engaged in actual health treatment.

Even the social position of Hungarian doctors enjoying greater respect cannot be compared to the social independence which characterized James Simpson, the famous English physician in a medical anecdote noted by Kálmán Mikszáth.[11] He could afford the following dialogue: "*Outside the house of sir James Simpson, the famous English physician there stood a coach of a princess who sent her stablelad to the doctor to inform him that she was waiting for him in the street. ...Go and tell the princess that I am busy with a washerwoman, I vannot go downstairs!...*" The essence of the differrence between the two behaviours is the presence and lack of professional and human self-consciousness which represents strength. Since "self-consciousness" is a social attitude, the different characteristics of

[10] *Mór Jókai* (1825–1904) a famous representative of Hungarian romantic novel writing.

[11] *Kálmán Mikszáth* (1847–1910) realist writer, journalist, who had a clear insight into life in Hungary at the turn of the century. He represented contemporary circumstances in his works critisizing them ironically.

the two social structures might be responsible for the causal relations which might explain the phenomen in question.

The vacillation of the number of students recorded in the matriculations of the medical faculties seems to confirm the fact that medicine was not a popular profession owing to the bad financial position of those engaged in medicating activities. From 1895 onwards until 1900 the number of medical students reveals a decreasing tendency. The number of students gradually decreased from the term 1889/1890 onwards: by the turn of the century from 1012 to 569. Their number was the smallest in 1900/1901 and then, by 1913 the numer of students suddenly increased to 3046. In this view, medical profession did not seem a secure financial source of living at the turn of the century.

The development of public health in Hungary was in close connection with the social position of the physicians, since their majority was in state service. In 1895 the number of the medical officers and physicians kept by towns, villages and districts was 2109, i.e. half of the total number of physicians. As regards areal distribution, the number of the village and district physicians was the greatest.

Number of medical officers between 1895 and 1900[12]

Census Year	*Public Health centre*	*County medical officer*	*District physician*	*Medical officers, chief medical officers assistant and district physicians in municipal towns*
1895	19	72	461	174
1896	19	73	473	177
1897	22	71	476	176
1898	20	72	469	177
1899	21	73	477	176
1900	14	65	404	171

Census Year	*Physicians of Corporate*	*Village and Panel physicians*	*Total number of physicians*
1895	189	1,406	2,321
1896	189	1,429	2,360
1897	181	1,446	2,372
1988	180	1,503	2,421
1899	183	1,538	2,468
1900	164	1,486	2,304

As a result of the urgently needed social adminsitration of public health due to the increase of social demands, the institution of the "medical officer" was formed. They were mainly physicians kept by villages, districts and towns. Among the physicians kept by the state, they were the nearest to those actually engaded in curing. By the end of the 19th century, due to the increase of the administrative work they approach step by step the type of the "physician

[12] Magyar Statisztikai Évkönyv VII, 1899. Budapest, 1900. p. 60.

clerk", whose typical representatives became the doctors employed by different insurance companies as well as sick funds founded at the turn of the century.[13]

The medical officers in the counties were appointed by election and their employment was considered as constant.[14] The village or county keeping the physician secured his salary from its local budget and fixed its amount according to the financial situation of the county concerned. The decision was made on the basis of the suggestions made by the representatives of village councils taking into consideration the opinion of the sub-prefect. The rent and the traffic costs i.e. the proportions of refunding was fixed by the sub-prefect himself.

From the point of view of discipline they were submitted to the same laws as the other civil servants of the community. The physician paid by the state was compelled to treat the poor patients of the villages within his service area free of charge. Furthermore, he had to take measures in several questions referring to public health. From his more opulent patients be was allowed to ask a fee, the amount of which had been previously fixed, by the county representatives. In his free time he could make private practice. The source of income of a medical officer derived from this private practice in his district. Those specialists who were engaged in private practice only, were endevoured to avoid the "public roads" of the villages and districts and preferred towns, spas, private clinics and hospitals to the incomfortable and poor life in the country. A medical officer qualified for practice within the country was at the same time entitled to exercise private practice and free to settle any where in the country. It was compulsory for him, however, to produce his doctor's degree to the competent administrative authority before beginning his practice, in order to be installed and annunciated. It suggests that even a private professor was under state control. In this view it becomes clear that in contrast to the free medical trade in Germany, in Hungary any kind of medicating activity could take place under strict rules. The question might be raised, whether these restrictions were adequate. The answer to this question could be given only on grounds of an exact analysis of the structure of contemporary society and institution of health administration.

Even after the bourgeois transformation of the social order the countys in Hungary preserved their traditional feudal structures that prevailed for centuries.[15] After the Compromise of 1867 the first administrative reorganisation

[13] The efforts to create a system of sick-funds (National Health Insurance) played a positive role. In reality, however, due to bad organization and local interests they gave minimal medical aid to the patients.

[14] 1886: Act. XXII. On villages. § 70. For the appointment of panel doctors, their salary place of residence, the decisions of § 144. 1876: Act. XIV. are competent. Cf. *Chyzer, K.:* Az egészségügyre vonatkozó törvények és rendeletek gyűjteménye 1854—1894. (Corpus of laws and decisions referring to public health — 1854–1894).

[15] *Pach, Zs. P.–Hanák, P.:* Magyarország története az abszolutizmus és dualizmus korában (1849–1918). (History of Hungary in the age of absolutism and dualism.) Budapest 1964. (University lecture notes)

and even the subsequent orders, as. eg. the Act 1870 XLVII preserved the old feudal apparatus of the county; the office of the elected sub-prefect and district administrations but at the same time the influence of the government, i.e. the minister of Inner Affairs and the prefect appointed by him was extended. Though later on the interference of the centrum and its right of inspection was further increased (Act 1876. VI.), the power of the leaders of the county over public life survived and administration was in the hands of this domineering, tyrannical rotten circle. In this world, in the meshes of financial and social title-hunting, the physician's personality could not assert itself. Their social position was determined by two basic factors: their actual role in the machinery of public administration, the formal side of which was guaranteld,[16] and their financial position, which, however, could not be considerably meliorated.

Among the factors determining the development of social and economical position of Hungarian physicians, special attention should be paid to their financial situation which—even if one-sided—was a true reflection of their role in contemporary social life at the turn of the century. As to the source of income of physicians, the above mentioned two types of practice should be taken into consideration: income drawn from private practice and salary paid for official health treatment. As regards financial means and the amount of fees, there must have been conspicuous differences between a clinician and a physician kept by a village or even by a town. These differences, however, imply further discriminations referring to the already existing stratification within the medical order. In our investigation we cannot pay more attention to these question since we are primarily interested in the survey of the general features.

As regards administration, and cultural level, the settlements of Hungary can be devided into three categories: Budapest, the capital, country towns and villages. A contemporary survey informs us about the position of physicians working in country towns and villages.[17] In view of it we can compare the way of life of those working under these two different circumstances. Unfortunately, the survey mentioned above doesn't contain data about the social position of doctors living in the capital since the question papers sent out were not completed and returned.[18] As a matter of fact, the possibility of differentiation was by all means the greatest in the capital, but as to its extent, characteristics and structure a definite evaluation has to be waited for. In view of the 130 answers

[16] See above: Note 14.
[17] Országos Orvos-Szövetség, op. cit.
[18] The first measures taken by the Hungarian National Association of Physicians founded in 1897 was to survey the financial and social position of the physicians working in the country. Those concerned about medical history and sociology of medicine are in the lucky situation to be able to form an almost complete picture referring to the financial circumstances of the doctors in possession of these data.

given to the list of questions inquiring the position of physicians in country towns, the following conclusions can be drawn:

Questions were:

1. What is your total annual salary drewn after medical activity?[19]
2. How much is your honorarium for visits?
3. How much is your rent?
4. Do you run a carriage and how much does it cost;

In view of the answers:[20]

Income — Less than 4000 Crowns 22%
Less than 2000 Crowns 8%
Between 4000 and 8000 ..... 43%
More than 8000 Crowns 25%

Consulting fee

Between 40 Filler and 1 Crown 24%
More than 1 Crown 75%
Less than 40 Filler ..... in one case

Free quarters 10%
Own house 24%
Rent
Less than 400 Crowns 7,5%
Between 400 and 600 Crowns 8,5%
Between 600 and 1000 Crowns 26,0%
More than 1000 Crowns 22,0%

Horse and cart at the costs
of 1000—1400 Crowns 28%

19% of the physicians was unmarried, 30% had no children.
Maximal income from the age of 30 onwards to the age of 50, then it was decreasing.

According to this evidence, half, or even more than half of the total income of the physicians fell to the costs of rent and running a carriage. It points to the fact that the doctors had sufficient funds at their disposal deriving from other sources of income: own fortune, dowry or some extra earnings. Some physicians had secondary occupations, e.g. directorship in savings banks. It would need a special analysis to establish in how many cases the exclusive exercising of their profession can be proved an how could they make living from it. After all, the data quoted above prove that the position of the country town physicians seemed to be relatively the best, and the position of the village and district medical officers was the worst:

Percentage ration of the physicians living in villages:

Less than 4000 Crowns total income 75%
Less than 3000 Crowns total income 44%
Less than 2000 Crowns total income 12%
Between 4000 and 8000 Crowns 24%
More than 8000 Crowns 0.5%

[19] The value of one golden USA dollar around the turn of the century was 4.935 crowns.
[20] National Association of Physicians, op. cit.

Free Quarters 20%

Own House 15%

Rent: The majority paid 200—600 Crowns

Less than 200 Crowns	8%
Between 200—400 Crowns	30%
Between 400—600 Crowns	17.5%
Between 600—1000 Crowns	7%
More than 1000 Crowns	1%

22% was compelled to run a carriage at the costs of 800 – 1000 crowns, and the allowance for traffic was not enough; an extra payment was needed in every case. Despite the less favourable circumstances only 11% of the provincial doctors was unmarried in contrast to those living in towns. The rate of childlessness was however the same (30%). The number of children in the families was higher, it amounted sometimes to 12.

The hard means of subsistence was due to the corrupt county administration. On national scole, the salary of physicians granted by the leading authorities of the counties was less than 1200 crowns; often only 200 – 400 crowns. If we add the unrepaid traffic costs the granted subsidy of which was originally low anyway, it becomes clear that doctors had grave financial difficulties. Only 9% of the doctors received a fee of 1 crown for visits—which was not a large sum either—and the majority was paid even less. 15% of the doctors drew leas than 40 fillérs as consulting fee.

The statistical data might be completed by the evidence of biographical details, chosen at random, even it they cannot be considered as uniform: A physician, aged 36, father of 3 children takes up postmastership in order to complete his salary of 360 crowns. In an opulent village, a doctor of 43 is private physician in the service of 132 families but his annual salary is generally 10 crowns, its maximum is 30. Another doctor, in charge of 15 villages-presumably scattered over a large area,—had a total salary of 2000 crowns, 300 crowns are his traffic costs, his rent is 200 crowns and the number of his children is 12. An 84 years old doctor has an annual salary of 400 crowns for 30 years, the fee he received for visits was only 40 fillér.

The sum of the doctor's honorarium was fixed by mutual agreement between the county and the physician. Some divergencies were possible from the amount established by the Minister for Home Affairs. (Departmental Order No. 135,000/1900.) The order took into consideration the areal differences as regards cultural and economical level, the different circumstances between towns and villages and the visiting fees could vary accordingly. These rather flexible measures which also implied the possibility of abuse had negative consequences. Some counties taking an unfair advantage of this possibility, fixed the fees rather low. The negative effect of the order and the possibility of isolation of the physicians was increased by the fact that in disputed cases the honorarium was fixed by the jury—after consulting some "experts". This contradictory situation becomes clear only if we take into consideration the contemporary administrative and legislative practice i.e. it was often the interested party

opposed to the doctor who could decide, or at least was able to influence the verdict of the jury against the justified demands of the doctor. In 1902 the physicians tried to eliminate the source of the individual abuses in legal form represented by the National Association of Physicians Referring to the Code of Civil Procedure under construction, they handed in an application to the House of Commons asking *"please, kindly declare that the asserted claims of the doctors concerning honorarium (should) be settled by the court where the doctor lived"*. The reasons produced were that *"the patients belonging to other municipal authorities often refuse to pay even the most minimal fees, knowing that according to the recent circumstances its collecting by legal process is so expensive and tedious that it practically cannot be carrived out in everyday usage"*.[21] This short petition reveals a sad social phenomenon and is a true reflection of the existential problems of the medical order which was even increased by the lack of progress in carreer and the possibility of receiving a pension. These circumstances explain that in order to improve their position and eliminate the unjust situation, doctors thought it necessary to found an organization of their own. They formed a league in 1897 in order *"to promote and defend the moral and social interest of the medical order"*.[22] The "National Association of Physicians" was of an ever uncreasing significance. Its network system in the provinces united all the physicians working all over the country and promoted the solution of their personal and universal problems.

*

Analyzing the social and financial position of doctors active in the second half of the 19th and the beginning of the 20th century we have to take into consideration the primeval difficulties in the process of the development of the new medical practice. The role of doctors underwent considerable changes in the bourgeois societies all over Europe. In contrast to the previous practise the degree of transformation was increased by the rapid development of medicine in the 19th century. The social contradictions which had an active role in the process of bourgeois development, and the effect of which was to be felt in the social changes, prevailed in this special field of scientific practice, where healing activity was dependent on the most direct human relations. The increased number of the representatives of this relatively new profession had to be accepted by society and incorporated in its juristic and economic system as well as social contentions. This was a long, universal process and the ways and means of the solutions of problems had not always been clear-cut for society, for the governments and public opinion. This is shown by the revival of the physicians' movements in almost every country, of Europe at the turn of the century. The Hungarian example is not isolated, it represents only a part of the movement on account of which the physicians succeeded in attaining their proper place in society.

[21] Archive of the Semmelweis Medical Historical Museum. Document of the Association of Physicians. Application to the House of Commons signed by Károly Kétli (Budapest, 1902)

[22] Constitution of the National Association of Physicians. Budapest, 1899.

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Our COMMUNICATIONES DE HISTORIA ARTIS MEDICINAE (ORVOSTÖRTÉNETI KÖZLEMÉNYEK) is published quarterly and publishes works relating to all aspects of the history of medicine and pharmacy and the various related sciences.

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