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FACULTY OF HUMANITIES

**DISSERTATION (PHD) ABSTRACT**

**“ARCHITECTURA CIVILIS” IN 18<sup>TH</sup> CENTURY HUNGARY  
LOCAL RECEPTION OF VITRUVIAN ARCHITECTURAL THEORY  
IN THE AGE OF LATE BAROQUE AND ENLIGHTENMENT**

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## 1. OBJECTIVES OF THE DISSERTATION

Primary sources of architectural culture in 18<sup>th</sup> century Hungarian Kingdom and Principality of Transylvania have been discussed several times in local art-history writing since the 1950's. Research focused on a wide range of related documents such as specialised books edited in Hungary or written by Hungarian authors, architectural treatises preserved at the most important local libraries in Hungary, certain manuscripts, plans designed on drawing and architecture courses in higher educational institutions. Given the rich variety of surviving documents available for research, study could be extended to other documents from contemporary (18<sup>th</sup> century) institutions, also, to other groups of primary sources not being subject of scholarly discussion yet. The investigation of the aforementioned sources completes and further refines the image of the period already existing, which is based on research results of the last decades.

For this reason, the dissertation deals primarily with those documents which are a sort of novelty in art-history writing. Similarly to the documents already explored, most of these unknown primary sources are connected to *architectura*-lessons and courses given in 18<sup>th</sup> century educational institutions. The reader will get acquainted with partly or fully unpublished documents such as manuscripts, printed exam-question lists, library catalogues from the period and drawings made at Piarist schools. However, investigation and exploration of architectural primary sources of the period is not fully accomplished yet, for the material is very fragmented, scattered, some may be still hiding in any of the archives or libraries within the geographical area. For this reason, research was confined to the most important collections. Therefore – though it is possible to some extent to sketch certain characteristic features of architectural education of the period – final conclusions should not be drawn, as future research might further refine research results presented here.

The dissertation discusses a very important issue of local 18<sup>th</sup> century architecture history: the reception of Renaissance and Baroque architecture-literature in Hungary. This many-hundred years old erudite knowledge is based on the only surviving classical treatise *De architectura* written by *Vitruvius*, a Roman architect living in the 1<sup>st</sup> century BC. The dissertation attempts to explore in what ways architectural expertise and taste of Hungarian and Transylvanian aristocrats and intellectuals were affected by technical knowledge and aesthetics theory inherent in Vitruvian tradition. Besides, attempts were also made to answer the following questions: how has a many hundred years long tradition found its way among local circumstances? and, how has it integrated into local culture of the period? As not the entire primary source material is known to the author, all additional documents coming into light later, but lying hidden at present, will be explored and analysed by later research.

## 2. FRAMES GIVEN BY LOCAL CIRCUMSTANCES TO THE RECEPTION OF ARCHITECTURAL KNOWLEDGE

In 18<sup>th</sup> century Hungary and Transylvania, architectural knowledge was mediated by various educational institutions in addition to foreign or local specialised literature accessible in libraries. According to Renaissance traditions, *architectura* formed part of the science of mathematics, and was taught within mathematics courses. In Modern Age architecture has been divided into two branches, civil (*architectura civilis*) and military (*architectura militaris*) architecture. While former dealt with buildings for civil and community use, the second meant fortress-architecture. It was an Europe-wide requirement toward members of aristocracy to acquire architectural knowledge in order to comply with representative obligations. Noble people in Hungary could acquire this knowledge, necessitated by their distinguished state in society, in similar ways as their Western European fellows did. On one hand, they took private lessons; on the other hand, they had the opportunity to study in

schools at secondary level as well as in colleges or boarding schools – local counterparts of foreign knight academies – attended exclusively by members of the aristocracy. The Jesuit university in Nagyszombat (Trnava) provided the highest level of Hungarian educational system.

Study trips to foreign countries, the so-called *peregrinatio*, formed important part of the education of young aristocrats and youths preparing for an intellectual career. Protestants attended primarily universities in Germany, Switzerland and the Netherlands, Catholics studied preferably at the university of Vienna or Graz. Ecclesiastics of noble birth and prelates also had the opportunity to continue their studies in Rome. The *Theresianum* in Vienna, founded in 1746, as well as the special Royal Body Guard Group consisting exclusively of Hungarian noble youths, also had a remarkable role in the education of Hungarian aristocracy. It was the Society of Jesus and the Piarists who run the most important boarding schools and colleges. Jesuits had the most extended school-network until 1773 when ordered to dissolve. After finishing studies at secondary level, students could continue by attending philosophy courses at the Faculty of Humanities of the university. Apart from the university in Nagyszombat, the Jesuit order also led other colleges, so-called academies, for philosophical and theological studies. Studying mathematics was obligatory for philosophy students too. In order to follow and respond the requirements of changing times, the whole educational system had been gradually re-organised from the mid-18<sup>th</sup> century. Step by step, Queen *Mary Theresa* introduced reforms, based on the Viennese model, at the university of Nagyszombat. As part of these reforms, architecture was officially ranked among university studies. Architecture studies were also introduced in some boarding schools led by the Society of Jesus.

Following the re-domiciliation of the middle part of the country, Piarist school-network gradually gained significance during the 18<sup>th</sup> century, in addition to Jesuit educational institutions. Piarists put more emphasis on teaching science – a direct and suitable respond to the requirements of the period –, contrary to Jesuits, still giving preference to humanist courses. In spite of these differences, Piarist school system was based on the Jesuit model. Besides running school on elementary as well as secondary level, Piarists also gave philosophy courses in several towns. At *Theresianum* in Vác, founded in 1767, closed in 1784, *architectura* also formed part of the education from 1766 onward. Architecture was also taught at their institution in Pest, as well as at their secondary school in Kalocsa, founded in 1765. Piarists took over the academy from the Jesuits in Kolozsvár (Cluj-Napoca) in 1776, and two surviving collections of drawing bears witness of architecture courses held there. The educational institution in Kolozsvár was granted the title university by *Mary Theresa*, but later degraded again to academy level by Emperor *Joseph II*.

During the 18<sup>th</sup> century, the state became more and more actively involved in political and ruling matters resulting an increasing demand toward accomplished and suitably trained technical specialists and engineers. To respond the needs, count *Ferenc Esterházy* Lord Chancellor founded, with the assistance of the empress, the *Collegium Oeconomicum* in Szenc (Senec), in 1763, the first institution specialised on training qualified engineers. Its building burned down in 1776, then, the *Collegium* was moved to Tata, where it was open until 1780, bearing the name *Studium Cameraticum*. In 1762 a similar institution, the Mining Academy of Selmec (Banská Štiavnica) was founded, providing place and opportunity for special education and training of mining engineers. This was the first educational institution within the Habsburg Monarchy founded by the state and exempt from control by the Church. Architecture also formed part of special technical and engineering studies.

Apart from the Catholics, Protestants also had some educational institution of country wide relevance, providing philosophy courses for students. Real colleges only existed in Debrecen and Sárospatak, where both philosophy and theology were available for study. Mathematics

formed an inherent part of both courses. In Transylvania, colleges in Nagyenyed (Aiud) and Marosvásárhely (Târgu Mureş) were of comparable importance.

Following the *Ratio Edicationis* in 1777, royal academies – colleges in fact – were founded in several towns providing philosophy courses in order to train public servants. Only those practical branches of mathematics were taught here that were closely related to economy, land survey, waterworks-building, and architecture. In 1782, under the aegis of the university already moved to Pest, *Joseph II* founded the *Institutum Geometricum*, the first university-level institution in Europe for training engineers. Most students graduating at the *Institutum Geometricum* served later as sate officers. Meanwhile, elementary-level art and drawing school system began to be built up gradually. For craftsman-apprentices it was obligatory to attend this type of school, where they had the opportunity to acquire basic architectural knowledge through copying modelbooks and plans.

Finally, it is necessary to mention, that building masters kept learning their craftsmanship within frames given by their guilds, as the traditional system of guilds remained intact in spite of the foundation of numerous specialised schools.

### 3. SOURCES OF 18<sup>TH</sup> CENTURY ARCHITECTURAL KNOWLEDGE IN HUNGARY AND TRANSYLVANIA

#### 3.1 NOTES TAKEN BY STUDENTS DURING LECTURES OR WRITTEN BY PROFESSORS FOR STUDENTS

In Hungary, most books dealing specifically with architecture were written as study-aid or coursebooks. Notes taken by students during lectures, surviving in the original hand written format, had similar function. These notebooks contain all material presented on courses and lectures. Their structure imitates the order of chapters on architecture in foreign as well as local Hungarian mathematics coursebooks. Their sources are identifiable in most cases.

To our present knowledge, the earliest manuscript of 18<sup>th</sup> century documents dealing with architecture are lecture notes written in Latin language by *Sámuel Náduđvari*, teacher at the Calvinist college in Marosvásárhely. The manuscript is kept at the Biblioteca Teleki-Bolyai, Târgu Mureş (inv. no. Ms. 72) at present. Its author leads and extensive discussion on physics, touching trigonometry, geometry, optics, chronology, then civil and military architecture too. The date 1743, occurring in the title of the chapter familiarising students with military architecture, helps dating the work. Certainly, this date might not apply to the entire document, but it seems likely, that another chapter treating civil architecture, had been also written about the same time.

*Náduđvari*'s work is sketchy, and only the basics can be learned from it. The introductory chapter gives a summary of the most significant elements of aesthetics and principles in Vitruvian architecture theory. First, he discusses in detail the most important Vitruvian requirements: *firmitas* (strength), *utilitas* (utility) and *venustas* (beauty) that describe and define architecture in its entirety. The first term is concerned with building material, structure and statics in modern sense, the second with function and proper use, while the third with aesthetics. *Náduđvari* uses the word *commoditas* (comfortability) instead of *utilitas*. It was a method widely used among modern authors to occasionally replace by similar words the original terms employed by the antique author. Besides the above mentioned terms, *Vitruvius* added further six theoretical categories, four of which is closely related to *venustas*, although only two of these, *eurythmia* and *symmetria*, is used by *Náduđvari*. In the original antique text both categories are connected to division and proportion: arranging into harmonic order the different parts the building is divided into. This makes it possible to describe the aesthetical appearance of a building by proportions. The term *symmetria* stands for a more general principle also defining other aesthetic categories equivalent of the modern notion of

*proportion*; while *eurythmia* is adequate with modern *harmony*. However, the exact meaning of some of these terms is ambiguous even at *Vitruvius*, some parts of the text of this antique treatise could be interpreted in many different ways. Several generations of architecture theory writers and scholars have been making attempts to fully understand and correctly interpret *Vitruvius*' work since the 15<sup>th</sup> century resulting a circulation of various interpretations.

This part of the document from Marosvásárhely shows correlation to a great extent with two German mathematics coursebooks titled “*Anfangs-Gründe aller Mathematischen Wissenschaften*” (Halle, 1710) and “*Compendium elementorum matheseos universae*” (Lausannae – Genevae, 1742), written by *Christian Wolff*, one of the most outstanding philosophers of the period. A comparison of the texts clearly demonstrates that *Nádudvari* directly relied on *Wolff*'s text. Works by this German scholar were very popular and well-known in Protestant schools. The most striking similarities feature in the way the two texts interpret *eurythmia*. This term is used in the modern sense of mirror symmetry throughout the manuscript. However, *Nádudvari* could not read this word in sources mentioned in his book. The same interpretation of *eurythmia*, originating in French architectural books from the last third of 17<sup>th</sup> century, also occurs in *Wolff*'s coursebooks, whose writings were used as reference in numerous occasions by the Hungarian author. Contrary to the German scholar, *Nádudvari* does not mention, that it is the French who interpret the term *eurythmia* as mirror symmetry. Obviously, *Nádudvari* himself did not meet the sources *Wolff* refers to, he only had an indirect way to learn about this new approach.

Subsequent chapters of *Nádudvari*'s notes discuss the theory of building materials and column orders, also familiarising students with the basics of architecture theory concerning the most important architectural forms and elements of design. Remaining chapters contain basic knowledge on technology, certainly, applied to the level of college students.

It can be laid down, that the author of the manuscript from Marosvásárhely heavily relied on architecture books and mathematics coursebooks published in German territories, written in the first half of the 18<sup>th</sup> century. Although the author also cited the most important sources of classical Italian treatise-literature in his work, the chapter dealing with architecture is more closely related to Central-European culture.

Civil and military architecture are also provided space in the third volume of a mathematics coursebook, titled “*Universae Matheseos brevis Institutio Theorico-Practica*” published by the Jesuits in Nagyszombat, in 1755 (3<sup>rd</sup> vol., Tyrnaviae, 1755). A comparison between *Nádudvari*'s work and the Jesuit coursebook shows that their structure as well as their content are very similar. Though the source from Nagyszombat is part of a printed coursebook, it is of the same genre as its counterpart from Marosvásárhely – both works were prepared for the same purpose. This Jesuit coursebook was the first printed book in Hungary discussing civil architecture.

“*Universae Matheseos*” is a demonstration of 17<sup>th</sup> century Jesuit scholarly erudition. Remarks and notes in the text refer to mathematics coursebooks written by various Jesuit authors. The same Vitruvian principles are presented and the same notions are defined as those occurring in *Nádudvari*'s text. The authors do not rely directly on antique authors, but on a coursebook titled “*Progymnasmata Latinitatis*” written by *Jacobus Pontanus* (3<sup>rd</sup> vol., Ingolstadii, 1594). However, literal citations taken from *Vitruvius* occur several times in the text. Actually, it is a characteristic feature of Jesuit methods of coursebook-writing: not exclusively original sources were used, but numerous details were borrowed from other already existing coursebooks. After an explanation of basic terms; building material, structure and column orders are discussed in the “*Universae Matheseos*”.

In the introduction, the authors of the Nagyszombat coursebook demonstrate, how noble a science architecture is. Their argumentation is based on Christian cosmology originating in Late-Antique culture, later integrating elements of Mediaeval and Renaissance tradition. The authors point out the place of architecture in the system of the universe, also explain how its importance and rank are verified by divine authority. Among other works, the writers of “*Universae Matheseos*” refer to a book titled “*In Ezechielem Ecplanationes*” (2<sup>nd</sup> vol., Roma, 1604) written by *Juan Bautista Villalpando*, a Spanish Jesuit. This work contains a detailed description of the fictive reconstruction of King *Solomon*’s temple based on the visions of prophet *Ezekiel* (Ez 40-42). The Spanish author tried to reconcile Vitruvian and Christian traditions. On one hand, he linked classical column orders with prototypes from the Old Testament, on the other hand, he argues that it must have been only God able to plan and construct a building of such perfect proportions.

Apart from the above mentioned works, Jesuits in Nagyszombat used certain very important volumes of Italian architecture literature as well as German books written in the first half of the 18<sup>th</sup> century. Due to the extensive use of all these sources, the coursebook from Nagyszombat contains in extracted form the entire architectural knowledge of Late Baroque period that is rooted in Humanism in fact.

The College Library of the Transtibiscan Reformed Church District in Debrecen preserves a manuscript (inv. nr. O. 360), a sketch of physics lecture from 1767, written by *Ferenc Ujfalusi*, a student in Debrecen, later teacher, finally pastor at the parsonage of Sáránd. The manuscript is particular among surviving documents as it is written in Hungarian. Within the text discussing various aspects of physics, a chapter on architecture is inserted completed with illustrations, ink and wash drawings. Regarding its function, this short part is of the same genre as works written by *Nádudvari* or the Jesuits in Nagyszombat.

Issues related to the field of architecture are listed and concerned according to the three main Vitruvian principles. The passage begins with a general introduction, followed by a discussion of building materials and structure. This work differs from all others previously discussed as it consists of three loosely related units that overlap and repeat each other at some places. Knowledge on building material and structure related to *firmitas* (strength) and *utilitas* (utility) are discussed in detail like in previous works. Though chapters on *venustas* (ornamentation) are missing, also, the two page long explanation on column orders is relatively sketchy compared to works presented earlier. However, this manuscript contains practical calculative examples, completely missing from all other sources. *Ujfalusi*’s notes mediate specifically practical knowledge.

Another unique feature of this manuscript is the short overview of architecture history given in the introductory chapter. The author discusses architecture in universal historic context. References made to the Temple of Jerusalem and some other Biblical buildings and places reveal that, as the Jesuit coursebook, this work also presents architecture embedded into Christian salvation history. However, it is striking that he only writes a couple of words about antique Greek architecture, and Romans are not even mentioned. Even more so, as contemporary comprehensive works on architecture history, where Christian view of history was also present, do not fail to discuss Roman imperial period, one of the greatest epochs of architecture history. To my understanding, if the omission of Roman antiquity was deliberate, this also confirms, that *Ujfalusi* intended to give a Christian historic frame to the material presented. Another argument to support this presumption: the author mentions the Temple of Jerusalem several times even when explaining practical and technical issues.

When one makes a survey of the sources used in the manuscript of Debrecen, it is apparent that for the most part it draws upon 17<sup>th</sup> century and early 18<sup>th</sup> century works. Its source material certainly does not fail to include some of the best comprehensive German handbooks

on architecture, like *Nicolaus Goldmann's* and *Leonhard Christoph Sturm's* works, also writings by the most significant Italian authors, such as *Sebastiano Serlio*, *Giacopo Barozzi da Vignola* and *Andrea Palladio*. It is apparent from all these that *Uffalusi's* notes on architecture, like the other manuscripts discussed earlier, is based on the Early-Baroque tradition developing from Renaissance roots.

The dissertation also mentions manuscripts already discussed by other researchers, of which the work written by *Tamás Királyfalvi Róth* in mid-18<sup>th</sup> century (MTA Archives, Mennyiségt. Mért. Épít. 4<sup>o</sup>) is discussed in detail. This document deals mainly with the proportions and elements of column orders. The text is written in Latin, however, technical terms for the elements of the columns are given in German. Apart from this, the author gave a very limited space for the discussion of practical questions and issues. No references are made to sources anywhere in the text.

The Library of the Vác Diocese preserves a manuscript written in German in 1757 (inv. nr. 219.283). According to the acquisition inventory, its provenance history is unknown. No inscription by previous owner(s), coat-of-arm or signature appear on the pages. However, as it is emphasised on the title page, its text is taken over from a French source. Its structure lacks any sort of logic, the author did not even make attempts to discuss the subject in accordance with Vitruvian tradition. Apart from *Andrea Palladio*, no other sources are given. The text does not deal with theoretical issues at all, but communicates practical knowledge exclusively.

Another manuscript on architecture written in Latin by *Ferenc Rausch* in 1799 is kept at the National Széchényi Library (inv. nr. Quart. Lat. 3726). *Rausch* leads a detailed discussion on the subject, dividing the content of his work into three, according to Vitruvian principles. The regular introductory chapter is based on *Johann Baptist Izzo's* "*Elementa architecturae civilis*" (Vindobonae, 1764), a work written by the Jesuit author as architecture coursebook for students at *Theresianum* in Vienna. The text is concerned with the theory of building materials, building structure, inner and outer design of buildings and column orders, finally. Main sources of this manuscript were comprehensive and extensive works written in German territories between the end of 17<sup>th</sup> century and the middle of 18<sup>th</sup> century.

Notes taken by a certain *Ferenc Nagy* during lectures given in the academic year 1804-1805 at the college in Eger, are also kept at the National Széchényi Library (inv. nr. Quart. Lat. 2722). Architecture, divided into *architectura civilis* and *hydrotechnia*, is given place next to philosophy, physics and metaphysics. Notes taken by *Nagy* begin with a short summary of architecture history, divided into four main periods: ancient (*architectura antiquissima*), antique (*architectura antiqua*), gothic (*architectura gothica*) and modern (*architectura moderna*). The ancient period includes the first huts, marvellous buildings by Babylonians, the Temple of Jerusalem, and Egyptian buildings. Classical Greek and Roman buildings belong to the antique period. Roman imperial period is considered by *Nagy* as heyday of architecture history. The entire long period between 5<sup>th</sup> and 15<sup>th</sup> centuries is discussed as Gothic. Modern epoch begins with the Quattrocento, and includes his own century too, when classical antiquity became the model to follow. The system of division applied by *Nagy* for architecture history was borrowed from the Jesuit *Christian Rieger's* "*Universae architecturae civilis elementa*" (Vindobonae, 1756), a work also published as coursebook for students attending the *Theresianum* in Vienna. The author of the Eger manuscript takes long paragraphs without any change from *Rieger's* text. It is striking, that Gothic style is not presented negatively, partly due to the fact, that during the 18<sup>th</sup> century, all prejudices against Gothic, inherited from Renaissance, slowly began to fade away. As usual, a short chapter on the basics of theory of building materials and structure follows the historical survey of specialised literature. Finally, the chapter on architecture ends by a listing of factors

determining *venustas*, and by the presentation of column orders. Not only the original Vitruvian sense of *eurythmia* is referred, but also its modern interpretation related to mirror symmetry. The main sources used by *Nagy* for his manuscript were Cinquecento authors and coursebooks published in Vienna half a century earlier.

Another note written in 1806 in the Royal Lyceum of Kolozsvár (Cluj-Napoca), formerly in the collection of Piarist College in Tata, closes the series of manuscripts on architecture (National Széchényi Library, inv. nr. Quart. Lat. 3598). As in the above discussed documents, the text is divided into three, based on the Vitruvian triple-system. Contrary to the other documents, here, it is not the term *eurythmia*, but *symmetria* that corresponds to modern mirroring-symmetry. Its sources can be found in the same corpus of literature already referred, also completed by the Viennese coursebook.

### 3.2 QUESTION SAMPLES FOR EXAMS

Question sets written in various subjects in order to facilitate students in preparing for end-of-term exams provide exact information on the quality and amount of knowledge required from students by professors. Question sets written by Jesuit teachers also confirm the supposition mentioned above in connection with the “*Universae Matheseos*” that students were expected to acquire Late Baroque architectural knowledge and culture rooting in humanism. The first proof supporting this presumption is given by the order applied to structure the material written in these documents: architecture was discussed strictly and pointedly in accordance with the Vitruvian categories. Questions concerning the most important principles of aesthetics – *eurythmia*, *symmetria* and *decorum*, the principle of uniting content and form – formed also part of the samples. *Decorum* was an indispensable and essential element of architectural representation. It is also apparent from the question-sets that, beyond teaching the theory of building material and structure, professors also held important to make students familiar, though on a basic level, with theoretical ideas, terms, according to their rank in society.

When examining the teaching material used by Piarists, it is striking that most Piarist sources do not discuss aesthetical categories at all, but – as the content of the question samples reveals – pay more attention to the scope of practical knowledge. Most likely as an effect of *Ratio Educationis*, passages treating service buildings and farm buildings appear from the 1780’s. However, this might not have been a novelty for Piarists, who were always strong in science and practical issues.

In addition to the question samples related to Jesuit and Piarist colleges, some other documents connected with public educational institutions also survived. In the turning of 18<sup>th</sup> and 19<sup>th</sup> centuries, exam question sets used at royal academies attest that following the instructions of *Ratio Educationis*, teaching practice has been given a prominent place in education. Questions concerning *eurythmia*, *symmetria* and *decorum*, and related aesthetical problems, discussed enthusiastically in the early 18<sup>th</sup> century, now are missing from the question samples. Also, some circumstances changed either. It is no longer the same types of institutions – the royal-archiepiscopal college in Nagyszombat, or the *Theresianum* in Vác, thus not “knight academies” – that are given prominent role in education. It is no longer the same student population that attends university and college courses. Practical knowledge has been reevaluated in response to the requirements of the new “*Zeitgeist*” embodying in the enlightened absolutism and “*raison*”. Students attending this new type of schools could acquire knowledge later being of palpable use.

### 3.3 SIMILARITIES AND DIFFERENCES BETWEEN DENOMINATIONS AND RELIGIOUS ORDERS AS SHOWN BY THE SOURCES THEY USED

Similarities and differences between various denominations and religious orders embody most conspicuously in the difference of sources used. Obviously, Protestants preferred to rely on those specialised authors who were well-known at universities attended by Protestants. Sharp dividing line should not be drawn though, as works published in German in Central-Europe were used as sources of great importance by Protestants as well as Catholics. In my opinion, there are only emphatic differences regarding the use of various architectural sources. This also applies to Piarists, though they approached architecture from a practical point of view. Everyone dealing with architecture or being somehow related to it, also became part of a long mutual tradition. It can be ascertained that architecture had been treated within the frame of Vitruvian tradition throughout the 18<sup>th</sup> century.

### 3.4 ARCHITECTURE BOOKS IN LIBRARIES IN 18<sup>TH</sup> CENTURY HUNGARY

When making attempts to draw a picture of the various collections, it is most important to clearly see the 18<sup>th</sup> century state of holdings. This requires investigation of contemporary (18<sup>th</sup> century) library catalogues or similar inventory books and lists – one of the most significant group of sources concerning 18<sup>th</sup> century architectural culture. When surviving catalogues were not available, one could have an idea about 18<sup>th</sup> century conditions by relying on present book-stocks. However, if there is no reference concerning the date when a book became part of a collection, it is only suppositions one can have. Catalogues provide information primarily on foreign books circulating in Hungary. Various booklists – from institutions, private libraries of high clergy and aristocrats, and public libraries – foremost give information about the direct European sources of local architectural knowledge.

Book-collectors, apart from rare exceptions, purchased preferably German works from the first half of the 18<sup>th</sup> century and 16-17<sup>th</sup> century Italian works of foreign architecture literature. Besides, 17-18<sup>th</sup> century French books also occurred. Contemporary editions only appear in large quantity in auction sale catalogues at the end of the century. The richest variety of languages characterised libraries owned by aristocrats, while public city and private bourgeois libraries had a much more modest collection – dominantly consisting of books written in German.

Certain members of high clergy and aristocrats purchased contemporary Italian and French works too. The most important library owned by institution belonged to the university of Nagyszombat. In addition to this, collections owned by various religious orders also played an important role. Collecting activity of high-ranking clerics and noble people are illustrated in the dissertation by a selection of libraries whose owners were the following prominent figures: *György Klimó* bishop of Pécs (1755-1777), *Ádám Patachich* archbishop of Kalocsa (1776-1784), *Christoph Anton Migazzi* bishop of Vác (1756-1757, 1762-1786), *count Károly Eszterházy* bishop of Eger (1761-1799), members of the *Batthyány* family, *count József Esterházy* (1682-1748) Lord Chief Justice, *count Ferenc Esterházy* (1711-1785) Lord Chancellor, *count József Teleki* (1738-1796) Crown Guard, and *count Sámuel Teleki* (1739-1822) Lord Chancellor of Transylvania.

### 3.5 APPLYING ARCHITECTURE THEORY IN PRACTICE: DRAWINGS FROM THE CENTRAL ARCHIVES OF HUNGARIAN PIARIST PROVINCE

The Central Archives of Hungarian Piarist Province preserves numerous architectural plans and survey drawings gathered together from various Piarist schools. Even though the material put together is very diverse, some larger groups of similar documents can be separated. Documents kept in the archives come from Kalocsa, dating to the 1770's; from Vác and Tata, from about 1779-1780; and from Kecskemét, end of the century. These documents might have belonged together originally like some albums already treated in art history literature. However, there are quite a number of documents in the archives where only the author's name is indicated, or, even, no name, or date, or the place of origin appear.

Plans reveal that architecture teaching in Piarist schools drew on an extensive corpus of source material. In my opinion, quality difference detectable on drawings made in different institutions reflects not only the presence or lack of talent in their makers. Obviously, architectural plan drawing was taught on highest level at engineering colleges and drawing schools. As architecture theory teaching was taken seriously at knight academies, the *Theresianum* in Vác and the Archiepiscopal College in Kalocsa – part of élite education – practical plan-drawing also needed to be taken seriously. Architecture also was part of taught courses at the Piarist school of Kecskemét, but surviving plans and drawings tell that there were not so much pains taken about accuracy, as in the aforementioned schools. Thus, the quality of drawings might also reflect the overall importance of a certain subject in an institution. However, there are no proofs at hand. By this argumentation, I only intended to direct attention to questions still unanswered at present state of research. Notwithstanding, it is also true that outstanding schools had outstanding teachers which affected the general quality of education.

Architecture plans and drawings presented in the dissertation reflect the same tendencies that art history writing already pointed out in connection with Piarist schools in Szenc, Tata and Kolozsvár. On the base of identifiable models, these drawings rely for most part on German language literature of the first half of 18<sup>th</sup> century, also, on earlier Italian treatises.

#### **4. ARCHITECTURAL CULTURE IN 18<sup>th</sup> CENTURY HUNGARY IN COMPARISON WITH OTHER EUROPEAN COUNTRIES**

In 18<sup>th</sup> century Hungary and Transylvania, compared to foreign countries, specialised literature on architecture and architectural knowledge were characterised by considerable conservatism. Development and tendencies show some similarities with Central European, foremost German territories. However, various factors such as a smaller number of periodicals, treatise-literature, modelbooks, published plans, pamphlets, absence of academy, also, still emphatic presence of a flourishing guild system remaining intact contrary to high-quality engineering schools, contributed to mark a particular direction for local architecture literature and knowledge. As a result, *architectura* remained part of mathematical studies until the very end of the century; related modern discourse on aesthetics and art-theory was still missing. It is apparent from every source type – might it be coursebook, notes taken during lectures, drawings, exam-question samples – that teachers taught expertise knowledge above all.

Lack of treatise literature had been substituted to some extent by purchasing foreign literature, though these acquisitions were also characterised by some conservatism. Obviously, book-collectors, who had been taught that architecture forms part of mathematics, as a result, had a certain attitude that influenced their choice on foreign architecture literature. Only very rich aristocrats, travelling extensively, thus having a wider prospect, also well-provided enough, bought modern works on architecture occasionally. More recent works only appear at the end of 18<sup>th</sup> century. It will be the task of later research to examine which local and foreign periodicals were taken by those collectors, art-lovers and intellectuals who had

selected or exclusive books in their collections. These periodicals might have influenced their readers' views on architecture, but this question could be fully answered only by an interdisciplinary research focusing on periodicals.

Considering all discussed above, it is obvious that local architecture-literature should not be measured to grand, representative foreign editions. Based on their content, both printed books and manuscripts can be compared with coursebooks. It can be ascertained that Hungarian and Transylvanian architectural writings follow the structure of certain foreign coursebooks e.g. those written by *Christian Wolff*. However, the extent, the amount of source material referred and fullness of details in European editions was far more extensive than in works written in Hungary. Foreign coursebooks also provided a school-bookish, compact summary of results presented in treatises and other types of architecture literature, enabling students to acquire all universal and basic elements of architectural knowledge.

These basic elements of architectural education were unvaried within the entire European civilisation for four centuries beginning with the Renaissance. Surprisingly, numerous correspondences unfold when comparing the text of Hungarian documents to the articles of the French *Encyclopédie*, one of the enormous scientific enterprises of the period. However, none of the Hungarian or Transylvanian writings on architecture has used the *Encyclopédie* directly as source material. Moreover, parallels also can be drawn between architecture-related passages in this masterpiece of Enlightenment and chapters of a work coming from an incomparably different intellectual environment, the "*Universae matheseos*" written at the Jesuit university.

*Encyclopédie* ventured to collect the entire and complete knowledge of the period. Therefore, it demonstrates perfectly, that e.g. regarding architecture, what was considered as basic knowledge and what were the most important sources. These facts make it clear that, though *architectura* was ranked among liberal arts, and several terms were given new interpretation, Vitruvian concepts and system was also kept alive serving as starting point. Most significant works on architecture written in earlier centuries were still in active use as reference works, and a wider frame for architectural discourse was specified by humanist tradition based on antique authors. Certainly these were very loose frames providing ample space for various interpretations.

A comparison between 18<sup>th</sup> century Hungarian architecture and contemporary architecture in other parts of Europe shows clearly, that a tradition-system – already provided with wide frames – keeps changing periodically and by region. There might be huge differences between Late Baroque in Hungary and French Classicism or Rococo in South Germany, regarding architectonic expressivity and visual effects, but still, all of them are based on the same ground. This base is actually identical with architectural discourse tracing back to *Vitruvius* and the humanists – a tradition already three and a half hundreds years old in the 18<sup>th</sup> century. Architecture-related documents from Hungary and Transylvania are part of the same tradition, although in a conservative form. Local sources only discuss the most relevant topics, however, these elements provide enough material for students to acquire fundamental architectural knowledge. Education provided on school level coupled with the development of sense of quality, enabled and helped later house-owners and commissioners in judging values appropriately despite changing tastes and styles. Due to these factors – though in the first half of the 19<sup>th</sup> century, like anywhere in Europe, *architectura civilis* rooting in Vitruvian tradition has gone by in Hungary too – art patrons and commissioners of the age of Neoclassicism could acquire such knowledge in school education that enabled them to see and recognise real quality in architecture.

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