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Albert Godena:
On The Educational Region and the Structural Changes of the Hungarian Wagon and Machine
Factory of Győr (1986-1914)

Theses of the Doctoral Dissertation

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1. Prior Research and Questions Raised

Ever since its foundation in the millennial year of 1896 only few works have been devoted to the detailed study of the early, Dualism-era history of the Wagon and Machine Factory of Győr. A portion of these was created with the aim of propaganda or as a mere summary on the history of the institution. To substantiate the subject matter of this dissertation it is also essential to emphasize that not only were these previous historical studies purely descriptive, but - despite the wide spectrum of available sources of data - they completely ignored and never did an in-depth investigation of the professional training demands and its consequences in this factory. As a result, beside studying sources primarily related to wagon production it is also advisable to enquire into the documents exploring the foundation and the early years of the Royal Technical School of Wood and Metal Industry of Győr. Comparably to the reviews written on the wagon factory, the works related to the technical school did not regard it as their primary focus to analyse the connections between the factory and technical education, thus this area has remained an uncharted territory up to this day.

Beyond the analysis of relevant studies it can be ascertained about the available resources that on the one hand we are in the possession of a large amount of measurable data to determine the operations and economic performance of the wagon factory – since in the archives one can find all the different meeting minutes from business meetings and the reports of the Directorial and Supervising Committee as well as the related accounts and data analyses either in handwritten or typed, or even printed, form. On the other hand, as to the subject matter of technical education and instruction, one can also find a significant amount and adequately detailed documentation according to the following structural breakdown:

1. Archival sources – documents from the Royal Technical School of Wood and Metal Industry of Győr.
2. Printed sources – yearly reports of the Royal Technical School of Wood and Metal Industry of Győr (1901/02–1913/14)

Thus, the necessity of investigating the early history of the wagon factory and the technical school has arisen due to the unprocessed and unconnected nature of this wide spectrum of information. The purpose of this study is to enquire into the available training data until World War I, through which an insight will be gained into the overall operation of the school and the factory as well. More detailed analyses will only be provided regarding a more limited period, namely the interval between 1910 and 1911, which is due to many factors:

1. In the 11th academic year of the school's history (1911-1912) the leadership experienced a rupture in the management of courses.
2. The events of World War I had a detrimental effect on the school's yearly printed reports, and as a result they were deprived of their previously well-structured nature. First a combined issue was released covering the years of 1914-1915-1916, but by 1918 the formerly experienced continuity was completely broken. The chaotic character of this period seems to be underlined by the fact that – most probably due to the ongoing hostilities – even the numbering of the mentioned combined issue was incorrect. The periodical issued in

1916 stated the correct numbering, namely issues XIV and XV, but the printed version was released with the incorrect numbers of XIII – XIV.

3. Starting from the year 1912 the archival registry records become defective, students can no longer be adequately identified.

In summary, owing to the disruption of the training in the 11th academic year, the increasingly discontinuous and less detailed nature of the eventually discontinued yearly periodicals after the beginning of World War I and the defective quality of registry records – not to mention the overwhelming number of data that would go beyond the boundaries of this study - our comprehensive analysis will conclude at the end of the academic year of 1910/1911. The result of this research on the technical school will be compared with the economic performance of the wagon factory and will be put into the context of the development of economic and educational systems in Győr during the age of Dualism.

2. About the Research Methods

As to the archival sources of the Technical School of Wood and Metal Industry, in addition to the training data of the initial courses started in 1901-1902 the registry records on the more intensive retraining courses lasting only a few months are also of outstanding importance. These handwritten and frequently uncensored documents contain the titles, the length and duration of the various courses as well as the name of the tutors. They also provide essential information regarding the students: their names, the date and place of their birth, their profession and level of qualification, their religion and their employer at the time of registration. In many cases they also state the students' records of achievement or even provide evidence of absenteeism, but a comprehensive analysis may be impaired by the fact that not all students were registered in an adequate manner, not to mention other defects in the source material noted in other time periods.

As for the printed sources, we can refer to the relevant issues of the yearly periodicals of the technical school, which have been completely preserved. These provide schematic reports on school events in the given academic year as well as valuable information regarding the personnel of the institution and the Supervising Committee. Their historical importance is further highlighted by the fact that they recorded the names and achievement of students, and in most cases the personal data (name, the date and place of birth) of the newly accepted trainees. As education and training expanded and the number of students increased, the yearly periodicals became more syncretical and encapsulating. A comparative analysis of the handwritten and printed sources is justified partly by the need to preserve as detailed data as possible, as well as by the fact that the printed sources provide a great help in deciphering illegibly written documents. The most significant difference between the two groups of sources is that only the handwritten registry records provide information as to the employer of the trainees.

The difference between the educational concepts behind the four-year basic training course and the intensive retraining course lasting only a few months is of major historical significance, since trainees attending the former course found employment only after graduation, whereas the latter educational form made it possible for trainees to work before, during and after the training. As a result of this very circumstance, and by analysing the instructional data of each individual student can we ascertain the extent of the effects of the presence and operation

of the wagon factory on the local education, recruitment and in-country or foreign migration of factory workers. The instructional data of wagon factory employees can be compared with those of students working for other factories, thus not only the relationship between the technical school and the wagon factory can be established but we can also find evidence as to whether the role of the wagon factory in this period can be considered unique or it represented a more general phenomenon.

In addition to the in-depth analysis of the manifold relationship between the technical school and the wagon factory it is also of paramount importance to enquire into the economic performance of the latter. Beside the aforementioned sources we will also rely on the available reports and accounting data of the factory to ascertain whether the leadership of the plant considered the industrial unit and the technical school as a short-term or long-term investment, or whether they were willing to provide capital and time into the trainings as a sign of a long-term and comprehensive strategy (regardless of the economic results of the given year).

3. Latest Results

I. In its foundation document (which appeared on 27 March 1896 in the daily issue of *Győri Hírlap*) the wagon factory considers the establishment of a technical school of vital importance. It urged for a quick setup of the trainings and – together with other supporters, such as the council of Győr, the Industrial Chamber and the Alcohol Factory) – it provided capital for it. Beyond this one-off investment the leadership of the unit (regardless of any personal changes in the committee) continuously insisted on the importance of a strong and special relationship with the school long after its foundation – we find many evidence of this in the documentation.

As the wagon factory operated within the framework of the norms of the business world, its investment into the trainings – despite the tardiness of the establishment of the school - proved to be fruitful, since (due to its size), it was the biggest beneficiary of the expertise of the many workers graduating there. It can be ascertained from the records that by the end of the academic year of 1907/1908 12 students studying wood industry received their degrees, two of them becoming employees of the factory. At the same time 46 students of metal industry studies graduated the school, out of which 21 received employment opportunities at the plant. Owing to the significantly higher number of students and the shorter training time, from a labour market perspective the special training courses (e.g. dynamo machine operator, technical drawer, furnace worker, traction engine and thresher worker. steam engine operator) are of greater importance, even if the relevant and focused specialisations only materialise in the second half of this decade. Based on the research results the wagon factory – even if to a lesser degree over the years - remained the most important employer for the graduates of these special trainings.

II. Considering the substantial number of students employed (or to be employed) by the wagon factory we can draw the preliminary conclusion that the unit had a significant impact on the structure of the labour market and the migration of workers in its immediate surrounding area of Kisalföld. This is verified by the maps based on the detailed data gained from the registry records of the special courses of 1906/1907. In addition to this, further conclusions can be drawn regarding the places of birth and their distance from Győr:

1. The primary agglomeration is the area between Lake Fertő, the Danube and Lake Balaton (including the Budapest metropolitan area), and bordered by Csallóköz in the north. (To mention a few settlements: Abda, Bakonybél, Devecser, Edve, Hidegség, Iszkáz, Kővágóórs, Mihályi, Nagydém, Nagymegyér, Perbete, Pusztacsalád, Pusztasomorja, Tüskeszentpéter, Vác, Veszprém.)
2. The secondary agglomeration is the area bordered by Lake Balaton, the Danube and the Dráva rivers in Transdanubia, with many directly affected settlements in the Zala and Danube regions, such as Becsehely, Dombóvár, Hahót, Letenye, Nagyatád, Nagykanizsa, Pécs, but we should also mention other, more distant locations from Győr, bordered by Kassa in the north and Nagybánya in the south, but continuing on in some regions of Transylvania and Székelyföld (e.g., Alsósófalva, Barót, Bánffyhunyard, Brassó, Csíkdelne, Máramarossziget, Nagykolcs, Nyírmada, Parajd, Székelytamásfalva, Székelyudvarhely).
3. Beside these bigger agglomerations we can also find smaller nuclei, such as the Kecskemét and Szolnok region, or the area around Szeged and Arad.

The agglomerations appeared primarily due to their geographical proximity, but we should not forget the catalysing effect of the railway system: all the mentioned regions possess a number of townships with very high volumes of railway traffic (Pozsony, Szombathely, Sopron, Székesfehérvár, Vác, Komárom).

As for the secondary agglomerations, their appearance must be due – beside the geographical proximity- to the closeness of the contemporary modernisation zones established by Pál Beluszky. These areas were made up of the settlements and townships in the lesser developed regions of Transdanubia and Transylvania. When it comes to migration from the other, lesser developed region of Nyugat-Felvidék (the southwestern region of today's Slovakia), Budapest seems to play a much more significant role than Győr, as opposed to the other similarly underdeveloped regions of Transdanubia.

This supposition seems to be verified by the fact that as we move toward the west, the population density of the settlements is directly proportional to their distance from Budapest. However, things are different in the case of the similarly underdeveloped regions of Croatia and Slavonia. Beyond the natural border of the river Drava the settlements were not affected at all, since the local population only spoke Croatian and Serbian therefore they could not participate in trainings designed for Hungarian speakers only.

The primary agglomerations share two very important characteristics – on the one hand, they are both adjacent or even on the edge of the most developed and modernised regions of the Hungarian Plain (therefore the migration of workers is not mostly due to the different levels of modernisation of the different areas, as in the case of secondary agglomerations), and on the other hand they are both around vicinal towns with highly developed railway lines (Szolnok, Kecskemét, Szeged, Arad, Hódmezővásárhely).

III. The biggest difference between the trainees employed by the wagon factory and those employed elsewhere can be found in the location of their registered birthplaces. When it comes to trainees employed by other units, it is not unusual to find that the place of employment was not Győr, or not even in the vicinity, of the city. This must have been possible by the trainees moving to Győr only temporarily, for the few weeks until the special intensive courses ended. The applicants of these intensive courses were mainly people who came from the Lake Fertő – Danube – Balaton region – and they came in larger numbers than those who took part in the regular courses. This is unsurprising, since wagon factory trainees hardly ever took part in irrelevant courses. It is unanticipated,

however, to find that the above-mentioned settlements are situated in an orderly radius around the city, with Győr in the absolute centre, as opposed to wagon factory workers whose places of origin seem to cover a more chaotic geographical pattern. As before, at the limits of the afore-mentioned radius we can find mostly townships with significant railway infrastructure, such as Pozsony, Szombathely, Sopron, Székesfehérvár, and of course the capital city of Budapest. In this context, beside the above-mentioned area no other similar contiguous agglomeration appeared. From other regions of Hungary new apprentices arrived only sporadically – and when so, they all seem to come from settlements capable to handle high volumes of railway traffic, such as the previously mentioned Szeged, Kecskemét, or Debrecen, Kolozsvár, or Csáktornya, to mention a few. Compared to trainees employed by the wagon factory we also find another significant difference, namely that hardly any applicants arrived from geographically remote areas, regardless of their state of development – in the case of Transylvania, for example, we find only a handful of applicants.

In summary, it can be established that, compared to other employers of the area, the Wagon Factory had a very different, a more complex and more powerful influence on the migration of factory workers of the time. This unit counts as the most significant factor – even more so than geographical proximity or the availability of railway infrastructure -in the existence and the forms of education in the school, since it attracted people even from economically less developed areas and motivated them to take part in vocational trainings. The key ingredient to this effect was in the monumental size of the Wagon Factory by the standards of the period. During the years of the intensive courses the number of employees at the plant was between 1,500 and 2,500, which means that it belonged to that 1.6% constituted by the most important Hungarian factories.

In terms of education, the encouraging attitude of the leadership of the Wagon Factory and their support in creating a successful technical training centre is evidenced by another interesting characteristic. Based on the birth data gained from the registry records of the intensive courses at the technical school, at least from the academic year of 1906/1907 it can be observed that the workers hired by the Wagon Factory registered at a younger age. The average age of trainees hired by the unit is 21,5 – 23,5, whereas the average age of trainees employed elsewhere is 22 – 26,5 – and this difference just increased as years went by.

IV. It is not clear whether the mentioned supportive attitude of the factory management can be explained by the profitability of the early years. We can investigate this by checking whether we can see any increase in recruitment and in the number of new trainees during the more profitable years, and if so, to what extent. If we consider the number of factory workers and trainees of the wagon factory, we can find that their numbers increased continuously in the first half of the decade, and showed strong fluctuation in the second, yet they still remained proportional. We cannot find any strong connection between the profitability of the wagon factory and the number of workers and trainees in a given year– not during the early years when profits were low, and not even later when continuous growth can be detected.

However, we can find strong connections between the business value of incoming orders and the number of employees and trainees at the factory – therefore it seems that it was the productive efficiency and intensity that mostly defined the educational demands of the factory in terms of number of employees and trainees. As a consequence, it can be observed that the leadership of the factory was willing to sacrifice significant amount of profit for the sake of growth – although not necessarily in terms of human resources – and for the sake of building new business partnerships.

In conclusion, an additional benefit to this research may be worth mentioning: beside the preliminary concept, this investigation of the archival records also proved to be an unexpected opportunity to review and amend the printed documentation of the special intensive trainings at the technical school.

4. Previous Publications on the Subject

GODENA Albert, *A Győri Magyar Vagon- és Gépgyár munkaerő állományra gyakorolt vonzása a 20. század elején.* [The Effects of the Hungarian Wagon and Machine Factory of Győr on the Labour Force at the beginning of the 20th Century] FRISNYÁK Sándor, KÓKAI Sándor (ed.), *Történeti Földrajzi Közlemények*, Year 4, Issues 3-4., Nyíregyházi Egyetem Turizmus és Földrajztudományi Intézete, MTA Társadalomföldrajzi Tudományos Bizottság Történeti Földrajzi Albizottsága, Nyíregyháza, 2016, 122-138.

GODENA Albert, *A Magyar Vagon- és Gépgyár munkaerő-állományának elemzése a győri fa- és fémipari szakiskola 1907/08. évi adatainak feldolgozása alapján.* [An Analysis of the Labour Force of the Hungarian Wagon and Machine Factory based on the archival records of 1907/1908 of the Technical School of Wood and Metal Industry of Győr] SZULY Rita, KRÁNITZ Péter Pál (ed.), *Társadalom térben és időben, Tanulmányok az új- és modernkori Magyarország eszme-, művelődés- és társadalomtörténetéről.* [Society in Space and Time – Studies on the Social, Cultural and Ideological History of Hungary] Magyar Napló, Írott Szó Alapítvány, Bp. – Piliscsaba, 2015, 41-67.