# Theses of Doctoral (PhD) Dissertation

# Women in the academic elite

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### I. Aim of the dissertation, thematical outlines

However eager we might be to believe gender does not matter at all in the scientific world, the numbers show otherwise. Looking at the membership of the Hungarian Academy of Sciences [Magyar Tudományos Akadémia, referred to henceforth as MTA], we can observe an immense disproportion in terms of gender composition.

In 2004, 96% of the ordinary and corresponding members of MTA were men. Looking at the membership 10 years later, in 2014, the change is almost non-existent: the same proportion dropped to 93.2%. Meaning the ratio of women holding a significant role in science has risen by a mere 2.8% (Illésné Lukács et al., 2011: 94, Grébics 2015: 60, quoted in Hadas 2017: 1391).

In 2017, only 24 of the 334 ordinary and corresponding members of the MTA were women. 26 men were elected as corresponding members during the 2016 member election process, and not a single woman, which resulted in the decrease of the previously existing rate of 7% to 6.7%. There are only 418 women among the 2689 Doctors of Science in the MTA, which equals a rate of 15.5%.

The dissertation is rooted in the justified goal and requisition for the intellectual and scientific advancement of the female gender (which makes more than half of the populace) to rest on equal conditions.

The dissertation aims to examine the reasons of the gender inequality present in the ranks of the scientific elite, looking for an explanation as to why are the numbers (6.7%) showing such a significant disparity between the male and female members of the scientific society when there are no legal constraints making it difficult for women to be represented equally in the Academy of Sciences (MTA).

My assumption is that the reason for women being represented in such a low number among the scientific elite is to be found in the social structure, meaning the gender stereotypes are de facto still present in the solidified habits and ideologies, just as they were a century ago. Even if not always direct and visible, these stereotypes execute an indirect, latent presence in the everyday practices. Resulting not only in just a handful of women achieving the highest ranks in the world of science and on top of organizations, but they are further excluded from the redistribution process of said positions, which in turn allows the reproduction of the status quo, along with it's gender-based hierarchic system.

My primary goal was to introduce the career arcs of female academicians and female DSc Doctors on the Academy, the inequality-generating gender stereotypes present even within the ranks of scientists, and the factors which were beneficial or detrimental with regards to these careers. I was also looking to find those aspects of the detrimental factors which can be traced back to gender discrimination. Furthermore, how did the female DSc and / or academician members of the MTA overcome the hindrances put in place by the traditional role expectations, how did they eventually break through the glass ceiling, what all this meant in terms of compromises or difficulties. All of the above helps to find out whether their life and career developments differ from the norm in any way.

From a thematical perspective, adhering to the previously outlined hypothesis and with regards to the above statements, the dissertation aims to analyse two distinct areas.

1. The theoretical framework i. e. the particular social space determining the hierarchical system of workplace apparati. Thus I outlined the different feminist groups alongside the basic notions and ideas used within this area by articulating the definitions circulating in the most current literature. Beside a brief contemplation on the subject's legal background, the theoretical part of the dissertation has been divided within the philosophical, sociological and historical aspects. Further detailed are the scientific profession tied closely to the topic, as well as the theoretical framework of SSK (the sociology of scientific knowledge). After examining the traditional views and opuses I have enumerated a number of experiences from renowned female historical figures. This allows to examine the actual experiences of scientists in a different historical foundation which addresses the problem at its roots, as I deemed it important to introduce the hidden reasons behind the visible barriers, the manifesti of male-female hierarchy, the sources of the phenomenon, the origins of the theoretical basis.

2. Secondly, the dissertation studies the workplace apparatus, i. e. what kind of a hierarchical social / institutional structure / s are the women integrated into, when they step out of the context of family into a larger territory. It also introduces the archetypes of female career models in detail, as well as taking special note of the typical women and social policies of the state socialism. This is followed by an analysis on the election system and structure of the MTA (how did it transform since the gestation of the Academy, and how the elections developed). This lets us see how much the tradition allows or hinders women to enter the Academy, which in turn shows how many barriers have stood in the way of the (scientific) career of women, and what those are specifically.

And finally, the correlations between the theoretical and pragmatical parts are pointed out with the

assistance of semi-structured interviews recorded with female scientists (academicians and DSc Doctors of the MTA).

The dissertation thus presents a comprehensive picture on the scientific careers of women and the overall situation in Hungary. The aim of the research was also to pinpoint those particular spots where the career of a female scientist grinds to a halt, and what the reason / s for that is / are.

# II. Brief summary of the methods applied

## The research: semi-structured interview

I have applied the method of semi-structured interviews during my research, which do not bear the possibilities of the in-depth interview, but not having a strictly binding structure, the method allows to unearth the deeper motivations of the interviewees, thus making possible the utilization of the narrative technique as well.

The key dimensions of the questions I addressed were as follows:

- 1. Early years, roots of scientific interest, family background
- 2. Junior researcher period, early years in science, life course models, reconciling family and career
- 3. Later stages of the life course, path towards MTA
- 4. Domestic scholarly attitudes

Certain variables, e. g. the transformation of certain family relations and career models (the permeation of dual-earner family models, where even the number of children becomes a fundamental issue, the resolution of which can be influenced by the amount of requisitionable institutional assistance), other changes influencing family structure, workplace apparati (family vs career conflict) have been kept in mind.

A total of 32 interviews have been recorded, with 11 academicians (ordinary or corresponding members), and 21 DSc's. An important aspect during the selection of the interviewees was to represent all fields of science, i. e. both the natural and technical sciences (the fields of engineering, mathematics, physics, geography, chemistry and medicine, in particular) and the social sciences and liberal arts (the fields of law, sociology, literature, linguistics, ethnology, history and philosophy). By the selection of the MTA DSc's I chose certain individuals who have already been nominated

for the title of academician. The interviews took place between December 2017 and September 2018.

The population of the scientific elite I begun to analyse is relatively small; only 418 women can be found in the ranks of MTA DSc's, 24 of which are academicians (ordinary and corresponding members). As mentioned, I have recorder interviews with 32 of the aforementioned, and given the fact all of the 418 members have the same level of qualification (DSc), the sample size of 32 members is suited for drawing universal conclusions as well.

The majority of the women participating in the research live and work in Budapest in one of the major universities of the capital, and only 5 are teaching in the universities of the larger Hungarian cities. The age of the researchers was between 65 and 80 years. Only 4 of the interviewees were under 60, one of them was under 50 - this latter presented an absolute exception in this regard.

#### Further data

Seconder data was also implemented alongside semi-structured interviews. Shortly after the 2016 election held by MTA several male and female researchers went to address their opinions on the results in essays. The primary goal of the seconder analysis was to present a broader picture about the attitude of scholars and academicians towards this topic, which can add further layers to my work. Among others, these essays outlined the notion of the academicians, i. e. the electoral method of the MTA and the traditions guiding these elections are the reason no women was elected in 2016. It is worth furthermore considering that, the members of the surveyed group being part of the scientific elite, a number of additional data can be found about them (CV, MTMT [Magyar Tudományos Művek Tára – Archive of Hungarian Scientific Works], previous interviews, scientific and other publications from and about them, monographies about them etc.), which also proved to be valuable assets supporting the semi-structured interviews.

### III. Brief summary of the results

The study had a novel approach in that aside from introducing the most important components of the scientific career, it strived to point out the universally present gender and social issues through the examination of exceptions i. e. the successful career paths. The assumption was if the conditions for a successful scholarly career among women can be revealed, the possible causes of the attrition will become visible as well.

First I have analysed the narratives along the main dimensions shaped up in the interview questions. As the early years and the typical marks of the family background could be interpreted in similar historical context, it could be ascertained that the negative effects of this period have only increased the number of obstructions in case of the interviewees (who typically come from a white-collar background), especially on ancestral and political-ideological grounds. An interesting aspect of this dimension is that a universal tendency could be shown despite the significant changes of the political-ideological system, i. e. the scientific career, the academic aim is fundamentally based on origin, and it is appreciably influenced by the cultural capital, the societal status of the parents. On the other hand, this descent was not a necessary premise when entering the profession or getting onto college.

No gender-based disadvantage could be shown in case of the examined female scholars in this dimension, just as well as in the next one, i. e. during the college years. Aside from this, it was obvious in every dimension that the female scholars have suffered disadvantages not because of their gender, but on political-ideological grounds. Experiences related to horizontal segregation came up only in terms of the vocational choices.

This was followed by the work-life balance dilemma, the family vs career conflict, which reflected the conclusion detailed in the theoretical part of the dissertation, namely career and family could only be accommodated in case of suitable subsidies. It could furthermore be stated that women under double burden had to combat significant disadvantages. In order to reach this conclusion, I have examined the women receiving subsidies, those lacking subsidies and those who chose to remain solitary in three separate groups, comparing their answers and opinions. The added challenges stemming from the traditional female roles and the difficulties, obstructions rooted herein have visibly shown here. Which proves that a dilemma affecting solely women has presented itself at this point in every case.

Based on the above, it can also be concluded that, while the number of women present in education and the labour market rising drastically in Hungary during the emancipation movement following the II. World War, it could not solve the issue of balancing career with family.

Above all this, my results have reconfirmed the general tendency showing the extended family model is not overly typical in case of scholars.

Beside a so-called "fortune motif" – consisting of three components (support from family or other sources, support and personality of the husband – if there was one – and the professional environment) the research showed individual character traits have also played a significant role in their scientific career.

These women have interestingly not experienced any gender-based negative discrimination in the dimension of the junior researcher period. They have only reported disadvantages which are mainly rooted in geographical (centrum vs periphery), geopolitical (Eastern-Europe) and political-ideological (a socialist country turning post-socialist) reasons.

The qualitative research showed furthermore that they suffered no gender-based discrimination after

receiving the DSc status on the Academy, as well as in the scientific life in general – the only authoritative factors were knowledge, learning (beside the supportive family background already mentioned), and the results, i. e. the meritum.

In the next key dimension – examining the criteria and possibilities of reaching the status of academician – could however be observed the traditional, archaic social structure showing univocally exclusive attitudes toward women. Not due to their inadequacy for the scientific career, but due to the attributes and gender stereotypes matched to leadership status familiar from workplace apparati. Analysing the interviews revealed unambiguously that these have to be distinctly separated from the "pure" scientific career.

We could state on the other hand that the phenomena experienced in relation to the academic elections are still reinforcing the status quo, meaning the justification of the system presents itself by keeping the leadership positions for the dominant group, despite allowing women to enter certain scientific fields. As we could see, the conjoining of several procedures assists this effort, as the academic self-election and re-election has been woven together with other social phenomena, such as institutional discrimination, the ideological socialization of workplaces, and other direct and indirect forms of differentiation. So this chapter explains why the equality of rights resulted in equality between the two genders regarding leadership positions.

In the next part of the qualitative analysis, I've examined the interviewees with regards to identification with the female identity, and I have sorted them into five different groups (creating archetypes). These five types are:

- 1. the traditionally progressive model type,
- 2. the postmodern model type,
- 3. the instrument oriented model type,
- 4. the classical equality model type, and
- 5. the alternative model type.

This categorizing revealed that they fundamentally rejected positive discrimination. The majority of them are present on the forums not as women, but as representatives of their respective field and themselves. Another part – showing a stronger attitude for identification with the female group – wants to further the rise in the number of female scholars both in the ranks of DSc's and academicians in one way or another (not with positive discrimination though). There were only a handful who deemed the female quota not a good but an essentially necessary solution. The attitudes on how much women want to become leaders or how capable they are to fulfil these roles

were also divisive among the individual types.

An interesting facet of the results was that none have ever suffered any disadvantage in their career as women – not one scientist examined in my research fell victim to any discrimination in the world of science. They did however in the academic ranks and in leadership roles / as heads of university departments. They identified and experienced statements emphasising a particular gender and/or affecting that gender negatively from their male co-workers on several occasion, either coded into the language or while thoroughly examining the election systems and the methods thereof.

The research affirmed furthermore that the inequalities in opportunities with regards to the world outside the Academy were primarily rooted in the traditional and familial female gender roles. In other words, the existence of disparities have had a negative influence onto the living conditions of women on many occasions, leading to direct or indirect discrimination.

To summarize: the conditions needed for a scientific career – outside the scope of meritum – were present during the life of the examined female scientists generally due to sheer luck. In addition, the position of the academician was not always an explicitly ambitioned one in case of women. We can thus state that gender played no role in case of "pure" scientific achievements, whereas it got more articulated in case of the academic elections, reproducing the traditional structure of relations in Hungarian society.

Based on the results of the research, the conditions needed for a scientific career – outside the scope of meritum – were present during the life of the examined female scientists generally due to sheer luck. In addition, the position of the academician was not always an explicitly ambitioned one in case of women. The latter is universally reckoned in the sphere of science policy. We can thus state that gender played no role in case of "pure" scientific achievements, whereas it got more articulated in case of the academic elections, reproducing the traditional structure of relations in Hungarian society.



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#### List of publications related to the dissertation

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