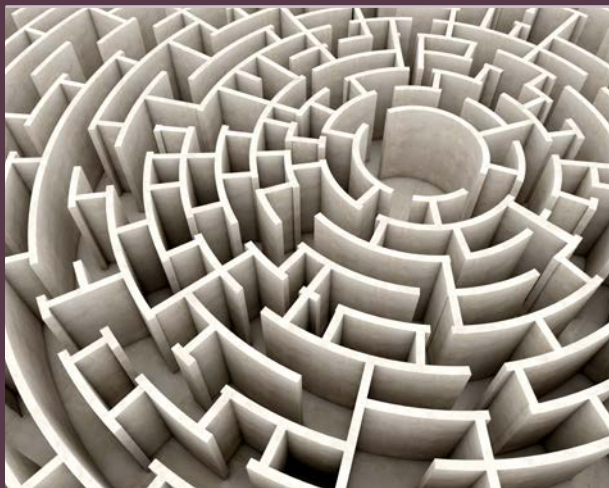


Editors:
Marta Vohlídalová
Marcela Linková

Gender and Neoliberalism in Czech Academia



“Transforming knowledge into an engine of economy” is a motto that has driven the transformation of research in the last few decades. Competition stands at the centre of the current neoliberal-inspired reforms and has underpinned changes in research organizations, career paths and working conditions in academia, and research funding practices.

This book analyzes the consequences of the neoliberal-informed reforms for gender equality in Czech academia. It examines gender aspects in the construction of research excellence, gender blind research policy adopted in the Czech Republic, academic career paths before 1989 and today, mobility, wellbeing and job satisfaction among academics and the reasons and motivations for leaving academic careers. The lack of local mobilization among women researchers combined with a conservative gender order and hostility to gender equality measures in research give us the opportunity to explore the gendered effects of neoliberal reforms in the particular settings of a country that has revamped its research funding and evaluation systems in a relatively very short time.

One of the goals of the book is to show the merits of studying local practices against the backdrop of large-scale geopolitical influences. While the book adds another piece to the global puzzle of changes in the organization of academic research and their impact on the lives of academics as well as on the quality and focus of the research conducted, its value lies in serious and critical attention to geopolitics. The local developments can thus be understood not only as particular cases of the impact of neoliberal-inspired reforms, but also as cases that can shed some light on possible developments in other, including “central”, geopolitical locations.

“This is a valuable, important and welcome contribution to international research and policy debate on gender and science which is largely dominated by research conducted in global “centres” rather than smaller country settings, and which is especially lacking research from Central and Eastern European developments.”

Professor Liisa Husu, Örebro University, GEXcel International Collegium for Advanced Transdisciplinary Gender Studies, Sweden

The book is an outcome of ongoing research of the Centre for Gender and Science, Institute of Sociology of the Czech Academy of Sciences, with contributions from other colleagues with similar research interests, including transformation of the higher education system in the Czech Republic and wellbeing of academics.



gender sondy

Marta Vohlídalová, Marcela Linková (eds.)

Gender and Neoliberalism in Czech Academia



SOCILOGICKÉ NAKLADATELSTVÍ

THE INSTITUTE OF SOCIOLOGY OF
THE CZECH ACADEMY OF SCIENCES

Keywords: Academic capitalism, Czech Republic, Excellence, Academic mobility, Gender equality, Work-life balance, Research policy, Higher Education Institutions, Women and Science, Gender

First published in 2017 by SOCIOLOGICKÉ NAKLADATELSTVÍ (SLON)
in co-edition with The Institute of Sociology of the Czech Academy of Sciences, Prague.
E-book only.

Reviewed by Professor Liisa Husu (Örebro University, GEXcel International Collegium for Advanced Transdisciplinary Gender Studies) and Lubica Kobová, M.A., Ph.D. (Faculty of Humanities, Charles University in Prague).

This book was written with the support of the grant project National Contact Centre for Women and Science IV (Národní kontaktní centrum – ženy a věda IV) (No. LE12003) within EUPRO II. programme funded by the Ministry of Youth, Sport and Education, and with the institutional support RVO: 68378025.

Gender Enquiry Series, vol. 13,
editors Zuzana Uhde, Jiří Ryba and Hana Maříková.

Type-setting by Designiq, Prague.

Publishers' Addresses:

SLON, Jilská 1, 110 00 Praha 1, slon@slon-knihy.cz, www.slon-knihy.cz
Sociologický ústav AV ČR, v.v.i., Jilská 1, 110 00 Praha 1, www.soc.cas.cz

Copyright © The Institute of Sociology of the Czech Academy of Sciences 2017

ISBN 978-80-7419-255-5 (PDF) Sociologické nakladatelství (SLON)
ISBN 978-80-7419-256-2 (epub) Sociologické nakladatelství (SLON)
ISBN 978-80-7419-257-9 (mobi) Sociologické nakladatelství (SLON)
ISBN 978-80-7330-287-0 (PDF) Sociologický ústav AV ČR, v.v.i.
ISBN 978-80-7330-300-6 (epub) Sociologický ústav AV ČR, v.v.i.
ISBN 978-80-7330-301-3 (mobi) Sociologický ústav AV ČR, v.v.i.

Editors:

Marta Vohlídalová

Marcela Linková

Gender and Neoliberalism in Czech Academia

Other Authors:

Blanka Nyklová, Kateřina Cidlinská,

Hana Tenglerová, Karel Šima, Petr Pabian,

Kateřina Zábrodská, Jiří Mudrák, Petr Květon

Kateřina Machovcová, Marek Blatný, Iva Šolcová



gender sondy

Praha 2017

Editorial board of SOCIOLOGICKÉHO NAKLADATELSTVÍ (SLON):

Luděk Brož, Ph.D. (Institute of Ethnology of the Czech Academy of Sciences)

Prof. PhDr. Miloš Havelka, CSc. (Charles University)

Prof. PhDr. Jan Holzer, Ph.D. (Masaryk University)

Doc. PhDr. Helena Kubátová, Ph.D. (Palacký University)

†Prof. PhDr. Miloslav Petrušek, CSc. (Charles University)

PhDr. Markéta Sedláčková, Ph.D. (Charles University)

PhDr. Jiří Šafář, Ph.D. (Institute of Sociology of the Czech Academy of Sciences)

Mgr. Zuzana Uhde, Ph.D. (Institute of Sociology of the Czech Academy of Sciences)

Ing. Alena Vodáková, CSc. (honorary member)

Table of content

Introduction	13
<i>Marcela Linková, Marta Voblídalová</i>	
1. Research on the Semi-Periphery? Beyond Geopolitics	26
<i>Blanka Nyklová</i>	
2. The Czech Research Landscape: Shifts in Research Organization After 1989	69
<i>Marcela Linková</i>	
3. Higher Education Policy Context	93
<i>Karel Šima, Petr Pabian</i>	
4. The Policy of Inactivity: Doing Gender Blind Science Policy in the Czech Republic 2005–2010	119
<i>Hana Tenglerová</i>	
5. Excellence and Its Others: Gendered Notions of What it Takes to Succeed in Science	159
<i>Marcela Linková</i>	
6. The Work Paths of Women in Science Before 1989 and Today: “In many respects I don’t envy young colleagues”	198
<i>Marta Voblídalová</i>	
7. “My wife finished activities requiring her presence in the Czech Republic, and moved to stay with me in Switzerland.” Academic Mobility in the Context of Linked Lives	255
<i>Marta Voblídalová</i>	

8. Satisfied but not Equal: Working Conditions of Women and Men Faculty in Czech Universities	277
<i>Kateřina Zábrodská, Jiří Mudrák, Petr Květon, Kateřina Machovcová, Marek Blatný, Iva Šolcová</i>	
9. Gloomy Prospects in Czech Academia: Who Gets Lost and Why?	314
<i>Kateřina Cidlinská, Marta Vohlídalová</i>	
Conclusions: Consequence of Neoliberal Transformations of the Research Profession for Gender Equality in Research	345
<i>Marta Vohlídalová, Marcela Linková, Blanka Nykllová</i>	

About the Centre for Gender and Science, Institute of Sociology of the Czech Academy of Sciences

The Centre for Gender and Science is a unique research department focusing specifically on gender analysis of transformation of science, research and academia, feminist science and technology studies, and gender equality in research. Our research focus covers three strands at present: Firstly, we study research careers from a gender perspective with a particular focus on early-career researchers, academic mobility, attrition from academic research, work-life balance and family policy and sexual harassment in higher education. Secondly, we examine the impact of neoliberal transformation in the public sector with particular focus on the ways managerialism, quality control and assessments and marketization play out in research and innovation, and in health and social care. Thirdly, we focus on medical anthropology and sociology of medicine. Members of our teams are represented in professional bodies, including the RINGS International Association of Institutions of Advanced Gender Studies, AtGender and the Gender Expert Chamber of the Czech Republic. We produce studies, and provide expertise and consultations to bodies of the state administration. We also provide support to higher education and research institutions regarding structural change for gender equality in research. To this end we have set up the Working Group for Change, a national network to advance structural change as an instrument to support gender equality. We also run a mentoring programme for early-career researchers to support them in their career choices and decisions.

The book is an outcome of ongoing research of the Centre for Gender and Science, Czech Academy of Sciences, with contributions from other colleagues with similar research interests, including transformation of the higher education system in the Czech Republic and wellbeing of academics.

Kateřina Cidlinská graduated in gender studies from the Faculty of Humanities, Charles University, in Prague, where she focused on the state policy for equal opportunities for women and men, the institutional machinery for equal opportunities and family policy. She is currently enrolled in a doctoral programme at the Department of Sociology, Faculty of Social Sciences, Charles University, Prague. Her doctoral research concentrates on the establishment of academic careers and career planning, with a specific focus on the dropout of women and men from their academic paths. Besides her research activities at the Centre for Gender and Science at the Institute of Sociology of the Czech Academy of Sciences, she is also engaged in providing practical support to early career researchers in the Czech Republic. She coordinates a mentoring programme for early career researchers and chairs the Czech Association of Doctoral Students.

Marcela Linková is a researcher at the Institute of Sociology of the Czech Academy of Sciences where she directs the Centre for Gender and Science. She has a doctoral degree in sociology from the Faculty of Social Sciences, Charles University in Prague. Her research focuses on sociology of gendered organizations, research careers, governance of research and research assessment from a gender perspective. Marcela also examines the material-discursive practices through which gender equality policies and initiatives are adopted and implemented at the European and Czech country level. She is active internationally in developing policy solutions for gender equality in research. She publishes on gender equality in research, and together with Mary Frank Fox and Kjersten

Bunker Whittington contributed to the 4th edition of *the Handbook of Science and Technology Studies* (2017).

Blanka Nyklová holds a PhD in sociology from the Faculty of Social Sciences, Charles University in Prague. She joined the Institute of Sociology of the Czech Academy of Sciences as a researcher in 2014. Her research interests include the Czech feminist scene, the situation of gender studies in the Czech Republic, geopolitical dimensions of knowledge production and gender STS. She specializes on qualitative research and has collaborated on numerous research grants. She is the vice-chairperson of the Gender Expert Chamber of the CR. Her most recent publication focuses on the effects of geopolitics and the neoliberal university on possibilities to engage in feminist pedagogy (Nyklová, B. 2017. Marketing Difference: Two Teachable Moments at the Intersection of the Neoliberal University and Geopolitics. *Gender and Research* 18 (1): 154–177).

Petr Pabian earned his PhD in theology at Protestant Theological Faculty, Charles University. He was involved in higher education research for several years and published both in international peer reviewed journals and books in Czech, including a book on the massification of Czech higher education since 1989 and co-authored books on the Humboldtian ideology and ethnography of higher education departments. Since 2015 his research focuses on Czech modern religious identity.

Hana Tenglerová graduated in gender studies from the Faculty of Humanities, Charles University in Prague, and in public and social policy from the Faculty of Social Sciences, Charles University in Prague. She joined the Centre of Gender and Science at the Institute of Sociology of the Czech Academy of Sciences in 2008. She is—among other things—a policy analyst and consultant and is involved in advocacy, opinion making, consultations, and commentary on emerging science policies.

Karel Šima earned his PhD in history and anthropology at Faculty of Humanities, Charles University. He worked at the Centre for Higher Education Studies for ten years and published widely on research into higher education, including books on massification and the Humboldtian ideology of Czech higher education. He also co-authored a book on ethnography of higher education departments. Since 2016 he has been working at Faculty of Arts, Charles University where he teaches ethnology, ritual and theory of social sciences and his research interests involve public festivities, cultural history and popular culture.

Marta Vohlídalová is a researcher in the Centre for Gender and Science at the Institute of Sociology of the Czech Academy of Sciences. She earned a doctoral degree in sociology at the Faculty of Social Sciences, Charles University in Prague. Her research focuses on gender aspects of academic careers and academic mobility, gender equality on the labour market and decision making, family policies and gender and sexual harassment in higher education. She has published her work in peer-reviewed journals and she authored and co-authored several monographs.

Kateřina Zábrowská is a researcher at the Institute of Psychology of the Czech Academy of Sciences in Prague. She holds a PhD in social psychology from Masaryk University in Brno. Her research interests include interpretative, critical, and discursive theories in psychology, qualitative research methods, and organizational studies with a focus on higher education. Her articles have appeared, among others, in *Qualitative Inquiry*, *Culture and Organization*, *Employee Responsibilities and Rights Journal*, *Educational Psychology*, *Research in Higher Education*, and *The Czech Sociological Review*. She received numerous awards including the Otto Wichterle Award, Endeavour Award and Fulbright scholarship.

Jiří Mudrák is an associate professor in educational psychology at Charles University and a researcher at the Institute of Psychology of the

Czech Academy of Sciences in Prague. His research interests include motivational and social factors related to the development of excellence and well-being in various educational contexts.

Petr Květoň is a researcher at the Institute of Psychology of the Czech Academy of Sciences in Prague. His research interests include quantitative methodology with a focus on item response theory.

Kateřina Machovcová is a researcher at Charles University and the Institute of Psychology of the Czech Academy of Sciences in Prague. Her research interests include interpretative and critical theories in psychology with a focus on gender, academic leadership, and educational experiences of students from marginalized backgrounds.

Marek Blatný is a professor of psychology at Charles University and a researcher at the Institute of Psychology of the Czech Academy of Sciences in Prague. His research focus includes well-being, personality psychology, and methodology of psychology.

Iva Šolcová is a researcher at the Institute of Psychology of the Czech Academy of Sciences in Prague. Her research interests include well-being, stress and burnout.

Introduction

Marcela Linková, Marta Vohlídalová

Over the past few decades we have seen the rise of *cognitive capitalism* (Høstaker and Vabø 2005; Moulier-Boutang 2012), which has transformed knowledge into an engine of economy, where researchers figure as individualized units of production. The idea that research output must be under the constant surveillance of assessment procedures in order to ensure stable and continued productivity emerged within this framework.

Shore & Wright (2000: 60) argue that while it is difficult to chart the history of audit rationality precisely, since the early 1980s various market mechanisms have been introduced in public sectors of most Organization of Economic Cooperation and Development (OECD) countries, in an effort to increase efficiency, accountability, and consumer power over the public sector. The conjunction of the OECD's appropriation of science and technology as an instrument of economic development with the onset of New Public Management in OECD countries since the 1980s created a very particular situation in research where the ground was laid symbolically (i.e., through statistics and values of the New Public Management) and institutionally (i.e., new practices of New Public Management, auditing, and assessment) for a neoliberal type of governmentality. Academic research and higher education have thus become major sites of neoliberalism characterized by privatization, deregulation, financialization, and globalization (Morley and Crossouard 2016). This governmentality regime entails "a focus on management, performance appraisal and efficiency; the use of agencies which deal with each other

on a user-pay basis; the use of quasi-markets and contracting out to foster competition; cost-cutting..." (Shore 2008: 293). The cornerstone of this logic is the assumption that introducing the principles of competition and competitiveness will seamlessly transform into increased efficiency and performance (Shore 2008). The result of the neoliberal governmentality regime is the consumerization of choice in education, the individualization of risk, and the entrepreneurialization of work in research (Ward 2012, cf. also Morley 2003).

Competition stands at the centre of all these processes. It has underpinned the changing research organization, career structure, and funding practices of science. The changing dynamisms in these three aspects are crucially inter-related and contingent upon each other, and it is this co-alignment of organizational, subjective, and policymaking/funding features that has effected a powerful change in the domain of research (Linková 2014; Shore and Wright 2000: 61).

Research assessment and rankings have become a global practice, redefining research accountability in terms of quantitative measures (Sauder and Espeland 2009). Contrary to frequent claims that audit, assessments, and league tables are value-free, neutral, and objective, research has revealed the consequences of these measures, which are epistemic (Anderson 2008; Gillies 2008; Roa, Beggs, Williams and Moller 2009), organizational, and individual, including affective and embodied (Chandler, Barry and Clark 2002; Shore and Wright 2015; Shore 2008; Sparkes 2007; Strathern 2000), and, of course, gendered (Linková, Cidlinská, Tenglerová, Vohlídalová, and Červinková 2013; Morley and Crossouard 2016; Morley 2003). Insecurity has become a key feature of the research profession with rising job precarity, insecurity of earnings, and the ability to advance one's research topic.

The introduction of neoliberal governmentality and the concomitant transformation of research and higher education reinforce the masculine culture of science. Thomas and Davies (2002) argue that the restructuring of higher education with a highly competitive and individualistic culture promotes a masculine subjectivity and career paths. Knights and Richards

(2003) contend that the shift to contract research linked to increasing competitiveness for research funding adversely affects women more than men researchers. These developments have been identified as further undermining women's advancement in research (Metcalfé and Slaughter 2008; Morley 2003). While the literature produced mostly in the UK stresses the negative effects of these changes, findings from Germany and Austria as well as some Nordic studies see potential benefits in the introduction of New Public Management and its stress on accountability, in breaking nepotistic ties inherent in the Humboldtian model of higher education (Caprile et al. 2012: 140–143).

Here, in conversation with the findings from other research and higher education systems, we explore the impact of neoliberal-informed reforms on research and higher education and specifically research careers and organization of research work. As will be discussed in greater detail in Chapters 2 and 3, the Czech research and higher education systems underwent two waves of reforms, one geared toward depoliticization following the political change after 1989 which solidified the autonomy of universities and research institutes, and the other entailing what Linková and Stöckelová (2012) call the repoliticization of Czech research in response to the introduction of a very particular research assessment system in 2004 and a reform of the research, development, and innovation system in 2008. Higher education was also planned to undergo a reform, including the introduction of student fees and greater external stakeholder engagement. Both of these neoliberal-informed reforms were never fully completed, and the Czech system shows features of hybridization. Nevertheless, the impact of change is palpable, and in this book we will specifically explore the gendered consequences of the reform steps that have taken place.

Since 1946 when the first woman professor, Milada Paulová, was appointed in then-Czechoslovakia, the proportion of women in research has clearly increased. The number of women in positions of full and associate professor has grown, and women have started to predominate among university students. Despite these developments, Czech research

continues to be the affair of men. This is eloquently illustrated by the available statistics which show that in terms of gender equality the Czech Republic trails Europe. In 2015, women made up only 26.9 % of researchers, which is the least since 2001 when this indicator started to be monitored in the country (Tenglerová 2017).¹ Compared to other European countries, the Czech Republic is below average or among the worst countries in Europe (European Commission 2016).²

This is alarming also because the proportion of women among Master's students (58.4 % of women) and doctoral programmes (43.8 % women) has grown steadily in recent years, and the total number of researchers has also grown (Tenglerová 2017). But only a minimum of newly-created research positions are occupied by women. Thus, in the Czech Republic the proportion of women who have the qualifications to work in research has expanded, as has the number of positions and volumes of funding directed into research and innovation (which has reached the volume of 1.947 % of gross domestic product in 2015 according to the OECD³). However, it appears that women do not manage to enter research. And if they do, they have incomparably lower chances than men to advance to higher echelons of the academic hierarchy or to participate in decisions about the direction of research. In 2015 women made up only 25.2 % of associate professors and 15.2 % of full professors (Tenglerová 2017). In a European comparison the proportion of women among full professors in the Czech Republic ranks 30 out of 32 monitored countries (European Commission 2015). The percentage of women in these positions has

1 We would like to thank Hana Tenglerová for her statistical input for this chapter.

2 The most comprehensive set of data from individual countries in the Eurostat database comes from 2012. The Czech Republic has the smallest proportion of women among PhD graduates, at 41 % (Eurostat 2013), the third lowest proportion of women in the higher education sector (ranking 32 out of 34), the twelfth lowest in the government sector (ranking 26 out of 35) and the fourth lowest in the business enterprise sector (ranking 32 out of 35).

3 OECD database on gross domestic spending on research and development, available at: <https://data.oecd.org/rd/gross-domestic-spending-on-r-d.htm>.

grown, but only very slowly. The proportion of women in leadership and decision-making positions of research and innovation is totally dismal: In 2015 women made up only 20 % of decision-makers and board members (Tenglerová 2017). The most important institutions and bodies of Czech research and research policy, however, fail this proportion by a wide margin. The leadership of the Czech Science Foundation, the main and de facto only funding organization distributing basic research funds, is comprised of only 6 % women; women make up 20 % of membership of the no-less-important Council for Research, Development, and Innovation—the main conceptual and executive body of Czech research and development policy in the country. Women made up 14.9 % in the leadership of the most important research institution, the Academy of Sciences of the Czech Republic (ibid.). *She Figures 2012*—European statistics mapping the position of women in research—ranked the Czech Republic in the last place out of the 28 countries monitored in terms of women’s proportion on panels and committees (European Commission 2013: 117); interestingly, the latest 2015 edition does not provide this information for the Czech Republic (European Commission 2016: 143, Figure 6.9).

Despite these alarming figures the mantra of the main actors of research and innovation policy is the “natural development” or “natural course of events”. The issue of gender equality in research is not accepted by Czech policy makers as a relevant topic deserving systematic solutions; with the exception of the Ministry of Education, the Technology Agency of the Czech Republic⁴, and several cultural and institutional projects funded by the European Commission, no attention is paid to the issue at the policy level or in research institutions. The only issue that relevant

4 In 2015 the agency was the first institution in the country to adopt a gender equality policy (the document is available in Czech at https://www.tacr.cz/dokums_raw/urednideska/genderova_politika.pdf). Since then the Agency has become a pioneer of gender equality in the country, and with the support of Horizon 2020 projects will start implementing a gender equality plan and will participate in the GENDER-NET co-fund project.

stakeholders are willing to address is the issue of combining work and parenthood. The ill-fitting design of family policy together with a lack of childcare facilities and gender conservative discourse of care are the only, even if partially, recognized barriers to women's advancement through the academic hierarchy. Phenomena such as discrimination, sexism, and gender stereotypes regarding women are hard to accept for many political actors and, as our research and experience suggest, also for researchers and heads of research labs. Our goal in this publication is to map the consequences for gender equality in research related to the neoliberal-informed reforms of the Czech academia and higher education taking place in particular since 2008, which started to significantly change the lives of a large portion of researchers. We will focus on the specific context of a Central European country, which demonstrates some specificities that interact with these reforms.

Outline of the publication

This monograph is divided into several parts. The first part includes three contextual chapters which provide background against which the analytical chapters are to be read. Chapter 1 by Blanka Nyklová presents the wider cultural context of the Czech Republic. Nyklová explores the geopolitics of the Central and Eastern European location in terms of knowledge production, theory development, and the gender regime, and challenges the dominant discourse of transitology as a lens through which to read local developments. The following two chapters introduce the Czech research and higher education landscape in terms of its main actors, institutions, and direction of policies affecting the professional paths of academics in these sectors. One of the key features of the Czech academic space is the coexistence of public research institutes (first of all represented by research institutes of the Czech Academy of Sciences), public universities, and higher education institutions as the main producers of scientific outputs. Both types of institutions take specific forms, are regulated by specified laws and policies, and the neoliberal

transformations are manifested differently and to differing degrees. In Chapter 2 Marcela Linková shows how these shifts manifest in public research institutes where they have been more pronounced than in the higher education sector. Karel Šima and Petr Pabian complete the picture in Chapter 3 with an outline of the higher education landscape and focus on the massification of higher education and quality assurance at universities.

The second part contains two chapters that address key aspects of the institutional settings in research which have a crucial impact on gender equality in research and research careers: science policies and research excellence. In Chapter 4 Hana Tenglerová analyses how the issue of gender equality in science is treated in Czech research policy and by policy-makers. She underscores the unwillingness of the political elites and policy makers to accept the issue of gender equality as a legitimate topic meriting clear solutions and the “policy of inactivity” adopted by institutions and their representatives in this policy domain. She shows how discourses redefine gender inequality as something that is located and should be addressed outside the domain of research, and in what ways the existence of gender inequalities in research is systematically denied and the status quo maintained. In Chapter 5 focused on the notion of research excellence, Marcela Linková considers what consequences the current definition of excellence promoted by contemporary assessment systems has for gender equality in research and the research profession. She contests the notion of a gender neutral definition of research excellence and shows in what ways women are excluded from excellent science through the very definition of excellence at the symbolic and institutional levels.

The third part of the book addresses the impact of shifts in the academic environment on career paths and work conditions in research from the perspective of researchers, with a specific focus on gender differentials. Linking closely to Linková’s chapter on research excellence, in Chapter 6 Marta Vohlídalová examines the ways in which women’s work paths have changed in relation to the shifting structural conditions in research.

She compares the narratives of early-career women researchers today and women researchers who built their career paths before 1989, and asks what the main factors are which directed the development of a career path before 1989, which factors affect work paths today, and what the key moments are in the women researchers' narratives which structure their career paths. In Chapter 7, Marta Vohlídalová reflects on a key feature of academic careers today—academic mobility—and concentrates on its gendered impacts. Through the perspective of linked lives she follows couples of mobile women and men researchers. She discusses what impact academic mobility has on the partnership life of mobile researchers, in what ways women and men rearrange their partnership and family lives in relation to mobility, and in what ways academic mobility affects the lives of the partners of mobile researchers.

Next, a collective of authors headed by Kateřina Zábrodská takes us to the environment of higher education institutions in Chapter 8, asking how current shifts and changes are experienced by academics at Czech higher education institutions and universities. Based on a large-scale quantitative study they analyse academics' wellbeing, and focus on gender differences in various characteristics such as job satisfaction, stress, burnout, and general perceptions of the work environment as well as the conflict between work and care.

The book closes with Chapter 9 by Kateřina Cidlinská and Marta Vohlídalová, who examine the reasons why people leave academic research. Based on unique research combining a questionnaire survey of people who have exited academic research over the last 10 years and in-depth interviews they show who leaves science and what motivations people have to leave. One of the disturbing findings is that most people do not leave because they weren't equal to the task or lost interest: the reason for their exit was primarily the disillusionment over current changes in academia and poor work conditions.

This book aims to bring to international audiences our findings related to the gendered impacts of changes in research and higher education landscapes in Central and Eastern Europe, a region geopolitically

located on the semi-periphery. Our goal is to start a conversation with other studies and findings into the impact of neoliberal research reforms mostly studied in the context of Western research environments, and to present findings based on different historical, economic, social, welfare, and gender contexts and experiences. Contrary to some studies into the post-1989 transformation of Czech society in general and research in particular that are located in transitology, we dispute the transitology logic (for more detail see B. Nyklová's Chapter 1) and want to contest the notion of catching up with Western (central) developments. In line with science and technology studies, our approach is one of symmetry, where we treat the research domain as a laboratory with its local path dependencies. In this sense we treat the local realities symmetrically to realities in regions or countries that are geopolitically located at the centre.

Neoliberal reforms may play out differently, with different intensities, different accents, and perhaps slightly different consequences. Yet this is not to say that the current shifts in organizational logics and governmentality regimes in research do not show a tendency towards institutional isomorphism (DiMaggio and Powell 1983). On the contrary, the main components of cognitive capitalism and neoliberalism can be found in different guises in policies and organizational logics across countries. Institutional isomorphism is a particularly salient concern in Europe and its continued reinvention through the European Research Area, the European Higher Education Area, Responsible Research and Innovation, and other policy plots. The conversations from various places that started happening in relation to the impact of neoliberal reforms and the introduction of research assessment systems underscore yet another major issue—the issue of collective action. It is clear that the system cannot and will not change through individual action. With neoliberal logic interpolating individual researchers and stressing individual responsibility and performance, the conditions for resistance on the individual level are limited (Linková 2014a). We thus want to join Maria do Mar Pereira (2015: 10) in her call for the need “not just to reflect critically

on our conditions of labour, but also to strengthen the links between academic work and broader collective action for social justice.”

Literature

- Anderson, G. 2008. ‘Mapping Academic Resistance in the Managerial University.’ *Organization* 15 (2): 251–270, <http://doi.org/10.1177/1350508407086583>.
- Caprile, M. et al. 2012. *Meta-analysis of Gender and Science Research: Synthesis Report*. Luxembourg: Publications Office of the European Union, <http://doi.org/10.2777/75176>.
- Chandler, J., J. Barry and H. Clark. 2002. ‘Stressing Academe: The Wear and Tear of the New Public Management.’ *Human Relations* 55 (9): 1051–1069, <http://doi.org/10.1177/0018726702055009019>.
- DiMaggio, P. J. and W. W. Powell. 1983. ‘The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields.’ *American Sociological Review* 48 (2): 147–160.
- European Commission. 2013. *She Figures 2012*. Luxembourg: Publications Office of the European Union. (http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf).
- European Commission. 2015. *She Figures 2015*. Luxembourg: Publications Office of the European Union. (https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-leaflet-web.pdf).
- European Commission. 2016. *She Figures 2015*. Luxembourg: Publications Office of the European Union. (https://ec.europa.eu/research/swafs/pdf/pub_gender_equality/she_figures_2015-final.pdf).
- Gillies, D. 2008. *How Should Research Be Organised?* London: College Publications.
- Høstaker, R. and A. Vabø. 2005. ‘Higher Education and the Transformation to a Cognitive Capitalism.’ Pp. 227–243 in *Governing Knowledge: A Study of Continuity and Change in Higher*

- Education*, edited by I. Bleiklie and M. Henkel. Dordrecht, Berlin, Heidelberg, New York: Springer.
- Knights, D. and W. Richards. 2003. 'Sex Discrimination in UK Academia.' *Gender, Work and Organization* 10 (2): 213–238, <http://doi.org/10.1111/1468-0432.t01-1-00012>.
- Linková, M. 2014a. 'Unable to Resist: Researchers' Responses to Research Assessment in the Czech Republic.' *Human Affairs* 24 (1): 78–88, <http://doi.org/10.2478/s13374-014-0207-z>.
- Linková, M. 2014b. *Disciplining Science: The Impacts of Shifting Governmentality Regimes on Academic Research in the Natural Sciences in the Czech Republic*. Charles University in Prague, Faculty of Social Sciences (Dissertation Thesis).
- Linková, M., K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. 2013. *Nejisté vyhlídky: proměny vědecké profese z genderové perspektivy*. Prague: Sociologické nakladatelství (SLON).
- Linková, M. and T. Stöckelová. 2012. 'Public Accountability and the Politicization of Science: The Peculiar Journey of Czech Research Assessment.' *Science and Public Policy* 39 (5): 618–629, <http://doi.org/10.1093/scipol/scs039>.
- Metcalfe, A. and S. Slaughter. 2008. 'The Differential Effects of Academic Capitalism on Women in the Academy.' In *Unfinished Agendas: New and Continuing Gender Challenges in Higher Education*, edited by J. Glazer-Raymo. Baltimore: Johns Hopkins University Press.
- Morley, L. 2003. *Quality And Power In Higher Education*. Philadelphia: Open University Press.
- Morley, L. and B. Crossouard. 2016. 'Gender in the Neoliberalised Global Academy: the Affective Economy of Women and Leadership in South Asia.' *British Journal of Sociology of Education* 37 (1): 149–168, <http://doi.org/10.1080/01425692.2015.1100529>.
- Moulier-Boutang, Y. 2012. *Cognitive Capitalism*. Cambridge: Polity Press.

- Pereira, M. D. M. 2015. 'Struggling within and beyond the Performative University: Articulating Activism and Work in an "Academia without Walls".' *Women's Studies International Forum*, <http://doi.org/10.1016/j.wsif.2015.06.008>.
- Roa, T., J. Beggs, J. Williams and H. Moller. 2009. 'New Zealand's Performance Based Research Funding (PBRF) Model Undermines Maori Research.' *Journal of the Royal Society of New Zealand* 39 (4): 233–238, <http://doi.org/10.1080/03014220909510587>.
- Sauder, M. and W. N. Espeland. 2009. 'The Discipline of Rankings: Tight Coupling and Organizational Change.' *American Sociological Review* 74 (1): 63–82, <http://doi.org/10.1177/000312240907400104>.
- Shore, C. 2008. 'Audit Culture and Illiberal Governance: Universities and the Politics of Accountability.' *Anthropological Theory* 8 (3): 278–298, <http://doi.org/10.1177/1463499608093815>.
- Shore, C. and S. Wright. 2000. 'Coercive Accountability: the Rise of Audit Culture in High Education.' Pp. 57–89 in *Audit Cultures: Anthropological Studies in Accountability and the Academy*, edited by M. Strathern. London, New York: Routledge.
- Shore, C. and S. Wright. 2015. 'Governing by Numbers: Audit Culture, Rankings and the New World Order.' *Social Anthropology* 23 (1): 22–28, <http://doi.org/10.1111/1469-8676.12098>.
- Sparkes, A. C. 2007. 'Embodiment, Academics, and the Audit Culture: a Story Seeking Consideration.' *Qualitative Research* 7 (4): 521–550, <http://doi.org/10.1177/1468794107082306>.
- Strathern, M. 2000. 'The Tyranny of Transparency.' *British Educational Research Journal* 26 (3): 309–321, <http://doi.org/10.1080/713651562>.
- Tenglerová, H. 2017. *Postavení žen v české vědě. Monitorovací zpráva za rok 2015*. Prague: Sociologický ústav AV ČR, v.v.i. (<http://www.genderaveda.cz/files/postaveni-zen-v-ceske-vede-2015-zlom-final-web.pdf>).
- Thomas, R. and A. Davies. 2002. 'Gender and New Public Management: Reconstituting Academic Subjectivities.' *Gender*,

Work and Organization 9 (4): 372–397, <http://doi.org/10.1111/1468-0432.00165>.

Ward, S. C. 2012. *Neoliberalism and the Global Restructuring of Knowledge and Education*. New York, London: Routledge.

1. Research on the Semi-Periphery? Beyond Geopolitics

Blanka Nyklová

Introduction

The Western world, Eastern Europe, South-Eastern Europe, Global North, and Global South—all these names rely on the capacity of location to define and root all the other aspects of existence, be it gender relations, political systems, or how people think. Geopolitics, or the study of how geography and especially location affects political and economic developments and international relations, has become the predominant perspective for analysing the post-1989 developments in former state socialist countries of Europe. To some extent, this approach might have seemed justified, especially in the first decade after 1989. However, this lens is not infrequent even today, long after most of the respective countries joined the North Atlantic Treaty Organization (NATO) and the European Union (EU), as if history affected geography and vice versa to such an extent we could claim that the future has already been determined and cannot be changed (Buden 2013).

While geopolitics is surely relevant to the study of science and research—hence the first part of this chapter’s title—there are aspects not readily covered by this focus, hence the subtitle. One of these aspects is the relevance of gender, which concerns both geopolitics and science studies. Gender is an integral component of geopolitics, which affects science and research as a lived, embodied practice experienced and enacted by concrete researchers. At the same time, science and research is also a structure under conflicting influences of local and transnational discourses evolving in time (Linková and Stöckelová 2012).

In this chapter, I argue that it is these conflicting discourses that also impact research in the Czech Republic (CR) call into question some well-established, sometimes even fetishized, geopolitical categories such as periphery, semi-periphery, and centre and, in fact, all of the names mentioned at the beginning of this chapter (Felt 2009).

My ultimate ambition here is to show why what is going on in the area of research and development in the CR—including its historical and present controversies—should be of interest beyond its borders, but also why it is not. This is directly linked to the position of gender as a geopolitically contingent category of research policy. It is frequently taken for granted that the gender perspective as applied in the mainstream of science and technology studies—i.e., as a core perspective the nuances and minute critiques of which are at the centre of academic attention at present—is universal. This resonates with how gender is approached in EU research policies: gender equality is a goal assumed to be shared across the board, with everyone doing their best to achieve it. Such an approach may leave the impression that gender-related issues in research policy are an equally-shared concern and one of the priorities⁵ of all the countries of the European Research Area. This would be a major misconception as gender and feminism are not an automatic part of even official Czech research policies, let alone their actual implementation (see Hana Tenglerová’s analysis in Chapter 4). The reasons why this is the case and how come such a challenge is largely unaddressed are at the centre of this chapter, which is divided as follows: We start by outlining the different ways used to theorize the geopolitical location of Central and Eastern Europe (CEE) with a special focus on the legacy of “transitology” or the discourse of transition that supposedly took place in the CEE after the revolutions of 1989 and the early 1990s. This entails an overview

5 For instance, when discussing gender, the main website of the Horizon 2020 EU research and innovation programme reads: “In Horizon 2020 gender is a cross-cutting issue and is mainstreamed in each of the different parts of the Work Programme, ensuring a more integrated approach to research and innovation.” (European Commission 2014)

of the repercussions of this ideology in general and its shortcomings on the example of the gender order and gender culture prior to 1989. Such a focus allows us to appreciate some competing approaches to the post-1989 period and their merits for assessing the role of gender in research. As the feminist politics of location informs us, neither discourses on gender, the actual gender culture, or the related gender order operate in a vacuum and we will therefore end by looking into the intersection between gender culture and geopolitics to unpack the possible merits of the adopted approach. By analysing the interconnections and uses of different geopolitical discourses, gender and research policy, this chapter serves as a reference point for the analyses and interpretations offered in this volume. In other words, it is necessary to read the following chapters with the geopolitical considerations presented in this chapter in mind.

How much does “where” matter?

Theorizing the research landscape and actors pertinent to research necessitates a conceptualization of the broader context in which researchers and institutions operate—as Czech sociologist specializing in globalization Marta Kolářová claims: “I believe that we are influenced by global processes and flows (of people, capital, and information). When exploring global phenomena such as the antiglobalization movement or feminism [or research and science], it is important to go beyond the European Union framework” (Kolářová 2009). Focusing on the “processes and flows” is all the more salient in the case of research. Everyday practices, such as when selecting which journal I will publish in, what grant I will apply for, and which country I should go to for my postdoc are both informed by what counts as “world-class” research and what is not, and further such distinctions (Felt 2009; Stöckelová 2012).

When we analyse institutions that emerge as a result of research policies, we need to take into account that these very policies are a changeable amalgam of national, EU, and international policies and agreements as well as less structured pressures and influences (Linková 2013). This

embeddedness then needs to be reflected in the analysis. For instance, the authors of a book analysing interdisciplinary differences in the European geopolitical context defined by the “East/West” and “centre/periphery” divides focused on how these defining categories are in fact fluid and deeply unstable, and even heavily dependent on both the epistemic and national position of the respective researcher (Felt 2009). The effects of where the “core” of a given discipline is believed to lie—e.g., in Germany for Austrian social scientists—then affects both the actual actions taken by young scholars choosing their postdoc (and taking for granted they need to go on a postdoc fellowship abroad) and the pressure exerted by the institutes and universities on young scholars to seek and compete for such fellowships (Felt 2009: 60).

Researching concrete publishing choices, beliefs of where the geographical “core” of a given discipline lies and which foreign institutes one should strive to cooperate with are clearly geopolitically contingent. What may be less evident, but no less important, is the relation between geography, ontology, and epistemology that underpins many of these decisions and choices. Issues related to ontology and epistemology have long been informed by seemingly neutral geographical notions—where you come from is not only your primary characteristic, it also substantially affects what and how you think, which makes this of special interest to science and technology studies. The most relatable aspect of this, especially in the European context, is the issue of language, as is also evident from where Austrian scientists tend to see their main point of reference.

Karen Bennett is a British linguist based in Portugal, who has long focused on the effects of using English as the international language of natural sciences in particular, but also social sciences, for what can and cannot be said and thought by whom. As a member of editorial boards of several English-language academic journals and an editor and proofreader of academic texts coming especially from Spanish and other Romance-language speaking countries, she has a unique position to assess what effects the translation of complex academic research and thought from one language area to another means for the knowledge transferred

and for the two concerned language areas (Bennett 2009). She has coined the term *epistemicide* to express what happens to knowledge as it travels, or rather tries to travel through translation.

Epistemicide means, quite literally, the erasure of epistemic processes and epistemologies different to those that can be smoothly expressed in English. This leads to a loss of these epistemologies, or ways of knowing, in a framework of the very European Research Area that paradoxically claims to develop new types of research and to innovate. As a partial remedy to the process of epistemicide, Bennett suggested resistant translations that refuse to commit epistemicide through closely following the original language structures. The underlying belief is that these very language structures and some language-specific terms embody and carry the particular epistemology. An example of such a resistant translation Bennett (2013) mentions is the translation of Foucault's works into English. Such an approach, however, may prove inaccessible to English speakers not used to accepting other than English structures of thought, who, at the same time, are frequently the decision-makers and arbiters of what counts as good academic English and what is simply "wrong" or "bad English" that requires the services of a proofreader or even editor to be paid by the author.

When discussing research output coming from CEE, the issue of translation from the respective languages of the area becomes maybe even more burning as funds for professional translators are often very low if available at all. This leaves many with the hardly appealing option of either paying for such services with their own money in a situation where especially junior researchers at universities are often paid below-average wages, or not publishing in English and limiting their output to the local academic community. The flipside of publishing in English as strongly encouraged by the national system of allocating public money to research institutions is that many findings on local developments are eventually only available in often expensive and therefore inaccessible international academic journals and books and thus fail to contribute to the often much needed debate (Havelková and Oates-Indruchová 2014; Stöckelová 2012).

Apparently, then, this is not merely a language question. Language alone is not enough to understand the salience of location for epistemology and the choices its transferability and lack thereof enforces. As a research participant in my doctoral research into the Czech feminist scene (Nyklová 2014)⁶ put it:

“When you write for abroad, the things you can usually present are the results from local research because how would they respond to a Czech creating a theory of feminism, postsocialism, or globalism? That would not be acceptable anyway. There are inequalities. (...) We can de facto no longer have ambitions to make a breakthrough with a theory. I would have to leave and create something there, not publish something only in English from here.”

This quote includes several implicit claims that are in need of elucidating if we are to fully grasp what is at stake here. The language issue is seen as not salient enough. It is a given obstacle that needs to be tackled, but it is not the final frontier. Rather, it is but the first obstacle on the way to get one’s theoretical input heard. A much more serious problem, at least in this account, is the location itself. The location in this particular case needs to be understood as geopolitical rather than geographical; it is, after all, about the location from where universal knowledge can be produced, i.e., a location with specific characteristics in terms of power rather than geography.

Indeed, as Gieryn (2002) shows, where a particular piece of knowledge comes from may play a central role in terms of whether it is going to be accepted as a general, universal truth or just as a piece of contingent

6 The referenced title is a PhD thesis. The research concerned the representatives of what I call the Czech feminist scene, i.e. academics, activists, NGO employees, and others involved with feminism in the Czech Republic. I conducted 27 interviews using a question guide, which was mostly concerned with what (feminist) theories these people used, how they understood their location, etc.

“local” knowledge that may or may not be universally relevant.⁷ In the quote above, the research participant denies such a position to her own location, which she sees as a result of inequalities that define the academic world and that individuals can do very little about, if anything. In order not to solidify such inequalities, these need to be analysed and monitored for possible changes. For instance, if we take the geopolitical position of the Czech Republic from the perspective of development aid, it has moved away from the position of a receiver of development aid to a provider, which entails serious ethical questions. For instance, some authors have pointed out that missing this shift enables Czech feminists to ignore the involvement of their government in global development aid and its often highly gendered consequences (Horký 2008; Kolářová 2010). Not realizing that at least in certain respects the Czech Republic is no longer just on the receiving end of aid makes it easier to ignore gendered global developments and the country’s involvement in these. However, in terms of research, as this volume unfortunately shows, global inequalities persist, albeit with different impacts on various disciplines. The dominance of English as the *lingua franca* of relevant academic research is an example of these.

The consequences of such inequalities may be very serious, as Maria do Mar Pereira (2014a) recently outlined when discussing the developments in women’s and feminist studies, and include the epistemological and theoretical homogenizing of whole disciplines, stifling of original, locally-relevant research, and the production of substandard research and interpretations of local phenomena. Gender and feminist studies have long reflected on the dangers and injustice of such homogenization. However, as Wöhrer (2016)⁸ has shown in her impressive comparative

7 Gieryn pays attention to the differences between various scientific disciplines and thus arrives at the conclusion that what constitutes the truth-spot in science is a laboratory that may function as such only as long as it manages to make its physical location disappear, for it is logically irrelevant to the “findings” that could be reproduced in any lab of the world.

8 I would like to thank Lubica Kobová for drawing my attention to the article.

study of the gender studies canon in four different geographical locations, the discipline is still very far from actually abiding by its own teachings: the dominance of the “centres” is still present in its encyclopedias and textbooks. Moreover, Wöhrer points out the need to resist the streamlining effects of neoliberal-inspired reforms on academia as discussed in this book, for they hamper efforts at a transnational knowledge building.

If we look at the concrete contexts that have been used to locate knowledge about the CEE, we have to start with how the very label—Central and Eastern Europe—came into existence. Larry Wolff argues that the concept of Eastern Europe emerged in the 18th century as part of the Enlightenment when the previous division into Northern and Southern Europe was gradually dropped in favour of the (more primitive, backwards) Eastern and (developed, progressive) Western Europe division (Wolff 1994). Wolff shows how the geographical label of eastern turned into something quite different in Eastern⁹ Europe. Eastern Europe began to stand for Western Europe’s closest “Other”¹⁰ helping the “West” to be defined as civilized, modern, and developed, which is a trope taken up and further developed by Cold War discourse.

However, since we focus here on the Czech Republic, we also need to consider the implications of another geopolitical concept—that of “Central Europe”. Stigmatizing the Other in order to establish one’s at least relatively superior position/identity in relation to it is one of the motivations for juxtaposing Eastern and Central Europe as two distinct entities, at least for some authors (Owczarzak 2009). In line with the trend of mingling geography with ontology and epistemology, author Milan Kundera (1984) lamented the fate of Central Europe in 1984: He

9 When capitalized, the adjectives refer to geopolitical concepts rather than geographical labels.

10 Edward Said’s concept of Orientalism is based on the perspective that the West is defined by what it excludes—i.e. the Other—in an act of (not just cultural) imperialism (Said 1994). In other words, it is not defined in a positive sense by what it is but rather negatively, through acts of exclusion. For a critique of this approach, see for instance Kramer (2007).

did not strive to deconstruct the notion, quite the contrary—by pointing out the commonalities in both the cultural history and present of the “little nations” between the “real” East and “West”, he strived to show that if Western Europe ignores the fate of Central Europe, it deprives itself of a glimpse of its own possible future when all European nations might be considered too small to matter in a new world of global politics. Just like Eastern Europe, Central Europe is thus constructed mostly through culture and the role it plays in modernity. Unlike Eastern Europe, Kundera shows Central Europe as an inseparable part (if not the cradle) of modernity rather than as its “Other”. Central Europe thus comes to mean something both distinct from the West (by mostly cultural features that may even be defined as superior) and as part of it if conceived of in broader terms (especially in relation to democracy).¹¹

Thus, neither Eastern nor Central Europe is an innocent concept. The aforementioned contradictory assessments that come together with these concepts also affect how research, namely the quality of knowledge emerging from it and its efficiency, are perceived both locally and globally. The positioning of the Czech Republic within these larger concepts affects how local research is regarded. The Czech Republic has been alternately located in both Central and Eastern Europe¹² by different authors and institutions (Alam et al. 2008; Weiss 2011). As both the concepts are clearly relevant to the discursive position of the Czech Republic, we use the umbrella term Central and Eastern Europe (CEE) to indicate its geopolitical location that seems to define it in many respects.

Although the difference discourse drawing a thick line between “the West and the rest” dates back to the emergence of modernity, the

11 For an overview of the origins of the terms Central Europe, Mitteleuropa, Eastern Europe, and East-Central Europe and a critique thereof, see Neubauer (2003) and Todorova (2009).

12 Some authors—most notably Huntington (1996)—include Central Europe and thereby the Czech Republic in the West. However, we focus here more on the approaches foregrounding the perceived difference and their repercussions as these dominate.

discourse that dictates how the difference is defined now is that of the Cold War. Cold War discourse (Kampichler 2010)¹³ has indeed nearly managed to overshadow the modernity-related origins of the divide, partly because of its own engagements with modernity. During the Cold War and especially after the revolutions which ended the rule of state socialist regimes in CEE countries, the West and the East took on distinct, highly polarized political connotations that influence geopolitics, and thereby also research, to this day. These connotations may be presented as a continuum from the (developed) West to the (underdeveloped) East with “stages” along the way. However, as Attila Melegh (2006) has demonstrated, this “East-West slope” does little to challenge the taken-for-granted single civilization model. Quite the contrary, it furthers it by placing different countries along the path to the most civilized—and most modern—West. This logic excludes the very possibility of alternative epistemologies and ontologies of (not only) research and science. While there was a clear dichotomy under the Cold War with the two blocs fighting for embodying the perfect modernity, after 1989 this embodiment has been identified with a single entity with the countries emerging from the former Eastern Bloc being scattered along the path to it. One of the by-products is the tendency to define the “East” as a result of the Cold War, while we do not see the “West” use the same discourse for its own reflection. As Coogan-Gehr (2011) has demonstrated, however, the impact of the conflict can be traced e.g. to the very formation of women’s studies in the USA, which proves that the belief in the one and only civilization centre is a myth. It is a powerful one though, which is also why, for well over a decade, the prevailing conceptualization of the processes that ensued after the fall of the Berlin Wall was that of transitology or the studies of transition.

13 The referenced title is a PhD thesis.

Transition and its competitors

As the etymology of the word transition¹⁴ suggests, it strives to describe a process with a clearly set beginning and an equally clear end point. Czech sociologist Jiří Večerník (1999) thus defines transformation as the “path from a totalitarian regime to a democratic one and from a directive economy to a market one”. As such, it has been approached from different angles, although arguably the most prevalent takes focus on the economic (Fischer and Sahay 2000; Mlčoch 2001; Stiglitz 1999; Vliegenthart 2010) and political aspects (Shields 2012, Welsh 1994; Wolchik 1995), often combining the two, with some focusing on their respective social repercussions (Večerník 2002). The mostly macro-level political and economic studies share a tendency to put forward or take down a grand narrative/theory either explaining or predicting the shifts in the given field (Večerník 2002), often in line with the “East-West slope” concept in mind. In this subsection, I will first look at some general paradoxes of the term transition. I then turn to how transition has been applied to the changes in the research systems of the CEE. Following that, I proceed to discuss the relevance of two related ways of conceiving of the geopolitics of the CEE and local research and science, namely the one that understands the region as a laboratory, and the concept of path dependence.

In the case of the former Eastern Bloc countries, transition has come to mean a process that started with the fall of state socialism and was to ideally end with the establishment of a democratic political regime underpinned by a free market economy. This underpinning is crucial as it substantially narrows down the very content and possibilities of democracy. At the same time, it is crucial because anything other than a market-based democracy is not seen as possible under this framework. Moreover, it *de facto* precludes the analysis of the processes it alleges

14 Transformation is another term used, most frequently in the phrase “economic transformation”, and we use the terms interchangeably here.

to analyse as the outcome of these processes is known beforehand—the countries will, at some point in the future, achieve the status and conditions already present in the more civilized and modern countries of the West. This will occur by implementing institutional, political, and economic changes recommended by those further up the hill, to stick to the East-West slope metaphor. In other words, it is teleological, which is at the core of many of its critiques.

Boris Buden (2010, 2013)¹⁵ offers a related critique focused on the ethical dimension of the transition narrative. He studies the conditions that made it possible to turn those who toppled the totalitarian regimes often at great personal risk into little children in need of disciplining and constant supervision. Once again, they are faced with no choice as to their future, which is set by the teleology of the transition. Moreover, if we take the East-West slope metaphor literally, it means that the infantilization is permanent, not temporary, as the slope is set once and for all for at least two reasons: the countries of comparison that represent the West are not homogeneous (even in terms of research policies) and, at the same time, they also keep changing—or developing/progressing if we embrace the concept of modernity—and therefore so do the goalposts for the countries of the East.

Besides the inherent teleology, transitology often suggests that the starting point is de facto the same for all countries, and identical institutional reforms will yield the same predictable results. Thus, in the case of reforms to the research systems, following the model of Western European and US research institutions should lead to catching up with the supposedly more advanced models stressing industrial research and innovation. This belief resulted in the dismantling of a rather sophisticated research system without any need for immediately assessing its results as they were—by default of the grand narrative—discredited. Nevertheless, it was soon clear that the changes did not yield the same results in all of

15 The 2013 text is a Czech translation of Boris Buden's 2009 German text *Zone des Übergangs: Vom Ende des Postkommunismus*.

the concerned countries and answers as to why started to be sought in order to integrate them into the grand narrative of transition.

The reforms of research systems were not an isolated action. Rather, they formed an integral part of the neoliberal economic reforms introduced into Central and Eastern Europe in the early 1990s with the first wave of reforms, finishing with economic recessions of the mid-1990s (Agostini et al. 2017). These reforms would take different shapes in respective countries and regions, resulting in what economists call different types of post-socialist capitalism. Myant and Drahokoupil (2013)¹⁶ see the Czech economy, after going through the transition period, as a foreign direct investment second-rank market economy. The authors are critical of the shape of reforms, as they point out that the haste was inspired more by political than economic needs. The ideas underpinning the economic reforms were a combination of the local political elite's interests with the overarching stress put on the Washington Consensus (Williamson 1990), which is often associated with neoliberalism as a transnational economic approach (Švihlíková 2011). In Czechoslovakia and later in the Czech Republic, the reforms criticized by Myant and Drahokoupil took the specific form of a two-wave voucher privatization promoted by the then prime minister, Václav Klaus. A second wave of neoliberal reforms in the form of cutting parts of the welfare network and support for the various social roles of the state came in response to the 2008 economic crisis. The first wave included extensive cuts to public spending on the research system.

With the economic recession kicking in, the mid-1990s witnessed the first intense wave of reflecting on the changes that had occurred to that time in the European post-socialist research systems. In 1995, a special European Association for the Study of Science and Technology (EASST)¹⁷ issue of *Social Studies of Science* was dedicated to assessing

16 The 2013 volume is a Czech translation of Myant and Drahokoupil's 2010 book *Transition Economies: Political Economy in Russia, Eastern Europe, and Central Asia*.

17 The European Association for the Study of Science and Technology.

the changes to national and regional research systems in Central and Eastern Europe and former USSR countries (Mirskaya 1995; Nesvetailov 1995), using mostly national and a few comparative case studies. One of the focal points of the issue was developments in the area of applied research (Balazs, Faulkner and Schimank 1995; Muller 1995). The special issue on changes to the research systems partly adopted the tendency to focus on grand narratives by largely relying on macro-economic explanations and trying to deduce future developments from “economic logic.” Nevertheless, paradoxes such as the locally preserved funding for universities and the scrapped funding for research and development institutes were acknowledged by some of the authors together with the overall contradictory nature of developments in the respective countries.

To give an example, Muller (1995) presented a set of three case studies focusing on three pillars of the previous research system, namely in-house and independent research and development (R&D) institutes (largely involved in applied research), the Academy of Sciences of the Czech Republic (basic research and international exchange of knowledge and, to a very limited extent, of researchers), and universities (education and research). Summarizing their evolution prior to 1989, he especially pointed out their lacking and/or malfunctioning mutual cooperation with assumed economic consequences and inefficiencies, and highlighted three cases in which some sort of a successful transformation seemed to be on track at the time of his research. Similarly, Balazs et al. (1995) decried the inefficiency of the perceived too-high number of research staff before 1989 and praised the fact the numbers were cut in former East Germany and the Czech Republic with researchers leaving research and science for the private sector or, much less frequently, for research abroad.

Besides claiming that the reforms in most of the countries led to much-needed changes, there are some contradictions, mostly relating to the quality and potential of the research done before 1989. While the overall transformation narrative (Vedres 2004) tried to justify or at least make the changes “logical” by pointing out the economic shortcomings of the research systems, this is contradicted when the research is given

academic credit and the potential embodied in the rapidly eliminated facilities and dismissed researchers is taken for granted or even praised. Thus, Muller, who spent the Normalization period analysing Czechoslovak research and innovations, commented on the loss of innovative potential caused by the mass disbanding of R&D institutes, reflecting that companies privatizing the institutes (or companies of which they were part) were “seldom ... in a position to capitalize on the accumulated capability through the transfer of whole research teams” (Muller 1995: 811).

Appraisal of the quality of the dismantled institutes and dismissed researchers is not limited to the Czech Republic. The same loss is reflected when Mosoni-Fried recounted the elimination of Hungarian R&D institutes at odds with the “the internationally acknowledged high quality of scientific research in Hungary” (Mosoni-Fried 1995) and explained the discrepancy with the shortcomings of the restructuring of the research system as such. Similarly, Schimank offered a comparative study of the developments across the CEE and former USSR countries stressing their often contradictory nature: while newly gained research freedom is universally cherished, losses endured by research systems in general and some of their branches in particular (e.g., original in-house R&D institutes in the CR and Hungary) have to be acknowledged as the field suffered from both drastic financial cuts and lack of political interest (Schimank 1995). Nevertheless, in spite of such critiques, the overall transition narrative praises the changes, including those to the research system, at least partly because immediate history was proven irrelevant by the very resolution of the Cold War.

The need for a different or at least altered general framework to that of transition, which stems from the above paragraphs, took different shapes. One such approach invited us to consider the individual countries with their different starting points, for example, in terms of scientific infrastructure in place, such as a laboratory. Thus, it is partly in sync with and partly in opposition to the transition discourse (Haughton and Deegan-Krause 2015; Rohrschneider 1994), and it allows for combining a

general framework of an ultimate change towards democracy and market economy with a focus on the particular developments in fields such as constitutional law or the transformation of the welfare system. The idea is that since the concrete steps taken by the respective countries were not identical, but shared a common goal, it should be possible to study, in a comparative perspective, what works best. If we take post-socialist states of the CEE as a single laboratory, it may be understood as a multiplicity of experiments done in hopes of attaining the same goal.

The laboratory framework then may be also applied to the changes that research and innovation systems underwent in the respective countries. It is relevant to the present volume in that it seems justified to use the example of the gendered developments throughout the local reform of the research system as an example of what the neoliberal reforms may produce in countries where they have been discussed and partly embraced, but not yet fully integrated into how research and science actually work there. This is so because the local reform has taken some extreme forms such as those concerning the proportion of institutional and project funding (see Chapter 2 by Marcela Linková). Their extremism has then been exacerbated by the developments described in the introduction—i.e., in an environment where there are very few options of coming up with alternative sources of funding, the number of positions available is very limited with most of them being precarious, and the average income in public research is low, especially if we focus on the younger generation of researchers.

The developments in the “laboratory” of Czech research were indeed gendered. As equal rights for men and women to enter both education and gainful employment were stressed under state socialism at the latest (Havelková and Oates-Indruchová 2014), there were more women researchers in CEE countries than in the other 15 EU member states (Blagojevic et al. 2004). A 2008 volume on women in science and research in Central Europe defined the main areas of interest in the Czech Republic as follows: “Representation of women in leadership positions, work-life balance issues, increasing the percentage of young

women and girls in areas of research where they have traditionally been poorly represented, and last but not least, issues related to gender aspects of knowledge production” (Linková et al. 2008). Although the financial cuts and transformation of the research system affected everyone involved in science and research, the consequences were largely gendered, leaving “women scientists in a more vulnerable situation” (Blagojevic et al. 2004: 25), which even at present affects research in these countries—for example in terms of highly gendered scientific careers and life courses (see Vohlídalová 2012, 2014). Thus, the gendered repercussions of such processes may serve as a cautionary tale (see especially Marta Vohlídalová’s Chapter 6 and Marcela Linková’s Chapter 5 on excellence in this book). However, in order to work that way, we need to stop seeing these as solely the result of the transition, and instead we need to see them as an effect of the discourses that dominated the transition period, coming from places where similar reforms are under way or planned at present, i.e., in the “West”.

A related theory to that of a laboratory is the theory of path dependence (David 1985).¹⁸ Path dependence has also been used to acknowledge that it is not possible to understand the developments prior to 1989 in the way Cold War discourse presents them, i.e., as finished and without any real influence and power over the later developments. This is a perspective embraced by many Czech feminist scholars (Dudová 2012; Hašková and Uhde 2009; H. Havelková and Oates-Indruchová 2014) for it allows them to show continuities especially in terms of policy, but also gender culture that affects the present shape of policies that are paradoxically frequently understood as resulting from the transition and hence completely new.

18 Path dependence as used by economists may be used as a rigorous analytical term. While arguably the allegation that more often than not, it is used to say that “history matters” (Page 2006) is true, we use the term in line with how it has come to be used by social scientists to show the continuities in terms of both the larger gender culture and concrete legislation, such as that on family policy (Hašková and Uhde 2009).

Gender order and cultures: Before and after?

The frameworks outlined above claim that the past is both over and crucial to the desired changes of the respective states as well as their research systems. The idea of an influence of a past discourse is thus paradoxically present even in the most liberal, free-market based interpretations of the transition (Stark and Bruszt 1998) that makes no sense if we cannot rely on a clear definition of a past that we need to transition from. It is explicitly embraced by the framework of path dependence that has proven instrumental to the research into gender orders and policies in place prior to 1989 and their influence over the present gender order and policies. Since these policies also include those regarding research, it is important to focus on where time, and also history, intersects with space and its geopolitics. I now, therefore, turn to a discussion of the gender orders and cultures that frame the analyses of this volume.

Gender order is a concept that “refers to a society’s systemic capacity to order gender relations in a historically [and locally] specific way, but it does not presuppose the nature of this ordering” (Demetriou 2004). Thus, it does not assume, for example, the existence of two mutually exclusive genders only or the domination of women by men, and at the same time enables us to integrate the symbolic, institutional, and personal aspects of gender that in turn make it possible to conceive of multiple masculinities and femininities and possibly other gender positions. Several feminist studies focusing on what feminist theories have been most influential in framing local feminist thinking in the CEE have pointed out that the most common approach to the issue of gender analysis has been to conflate “gender” with “women” (or sex) rather than offer an actual gender analysis of how different masculinities and femininities are enacted and embodied and with what consequences (Cerwonka 2008; Kampichler 2010). This both homogenizes and constructs women as a group with distinct characteristics and commonly shared interests and at the same time solely associates femininities, or rather a singular femininity, with women and masculinity with men.

Nevertheless, this is not to say that it makes no sense to look into how, for example, state institutions and decision makers constructed women as such a homogeneous group under state socialism (Fodor 2002; Nečasová 2011). Indeed, if we are to frame research policies and practices, such a look is necessary for it highlights the official framework within which—and in opposition or partial opposition to—the actual femininities and masculinities would be enacted within small-scale everyday settings. Such an approach allows us to study individual gender cultures and the ways in which they interact with the general gender order. This also entails how gender was done in research in the given period (see below).

Since a detailed study of the gender dimension of legislative measures directly affecting the gender order in state socialist former Czechoslovakia exists (Havelková 2009, 2014), I limit the account to a mere summary of some of the most distinct developments.¹⁹ In 1948, the Communist Party of Czechoslovakia gained power through a *coup d'état*, which resulted in the overhauling of the whole legal system and an attempted and partly implemented reform that also concerned gender relations. Havelková (2014: 48) sums up the outcome of the legal side of the reform for women as “the coexistence of public (de jure) equality and private (de facto) inequality/difference”. At the outset, the reform was influenced by Marxist thinkers, among whom Friedrich Engels stands out with his *The Origin of the Family, Private Property and the State* (Engels 2001). Using historical analysis, he associated the subordination of women not so much with patriarchy but rather with the unequal ownership of means of production and the class structure of capitalist society, although he acknowledged the importance of patrilineal heritage laws. The reform based on such assumptions then primarily focused on making jobs in the public sector open to women and to a much lesser extent on shifting domestic chores and care into the public sphere.

19 I would like to thank Marta Vohlídalová for sharing her analysis of the elements of the gender order in place between 1948 and 1989 most pertinent to the positioning of women scientists of the period in comparison with today.

If we return to the legal analysis of these changes, we can see that the opening of jobs in the public sphere to women de facto meant mandatory if not forced labour (Havelková 2009), which was partly driven by the ideological assumptions outlined above and partly by the sheer economic need for labour after the end of the Second World War. The practical result of the reform was a mass introduction of women into the labour force starting in the 1950s, which led to depriving men of their previous role of sole breadwinners (Vodochodský 2007) in middle-class families. Since the centrally-planned economy asked for a skilled labour force, women also started to increase their education, and especially since the 1960s. Both these changes then occurred earlier than in most countries primarily associated with the advancement of women and the feminist movement. On the other hand, since the gender reform explicitly only concerned women (Nečasová 2011), it inadvertently created a double burden for women (Scott 1976) as their caring responsibilities in the home (of the household, husband, children and any other dependent family members) were not effectively challenged and nor were the roles of men.

Indeed, in her analysis of the women's movement in former Czechoslovakia between 1945 and 1955, Nečasová (2011) depicts some concrete obstacles the reform ran into on all levels of society, with a special focus on Communist Party cells in small municipalities and in the workplace. She shows that after 1948 when the reform of the gender order was initiated, it met with much opposition even from Communist Party representatives on the local level. This would be in stark contrast with the official communication and propaganda of the period, which portrayed women²⁰ as staples of state socialist progress towards communism and

20 The propaganda that encompassed the media, arts, and also the policies treated women as a largely homogeneous group. This is not to say, however, that political persecution, incarceration, even capital punishment in political trials of the 1950s did not concern women. Moreover, policies specifically addressing the Roma population especially after 1970 started to distinguish between the majority and Roma ethnicity, labeling the Roma population inferior and by definition in need of regulation. This regulation

attributed them two roles—that of a worker and of a politically conscious and active citizen (Nečasová 2011).

As Oates-Indruchová (2012) has shown, these tropes managed to survive well into the very end of state socialism as part of the official discourse of the regime that appeared in news media and was embodied by women workers winning awards such as that of Hero of Socialist Work. In fact, these tropes may be partly to blame for the perceived inadequacy and nonsensicality of the state socialist approach to the role of women. Nevertheless, Hašková and Uhde (2009), B. Havelková (2014) as well as Lišková (2016) point out that starting at the very latest in the 1970s, following a debate dominated by psychologists in the 1960s, the roles primarily attributed to women shifted back to those of the mother and homemaker, albeit without dropping the automatic assumption of involvement in full-time paid employment. The basis for the changes was an extensive reassessment of the perceived (although hardly substantiated) negative consequences of the gender reform launched after 1948. These were to mainly concern children of full-time working mothers who used nurseries as a solution to the work-care dilemma. In legal terms, this involved gradual amendments to legislation that resulted in some positive achievements regarding protection of working mothers (Křížková and Vohlídalová 2009) and of pregnant women, the possibility to combine work and care, for example in the form of gradually extending parental leave, and providing widely accessible childcare facilities (Maříková, Hašková and Uhde 2009). The job protection that came along with the parental leave that was specifically available to women²¹ was real and meant that even having more than one child and staying home with each for two years did not have to result in losing a job, which is frequently the case today. If we consider how this impacted Czechoslovak women

was to take the form of extensive disciplining of everyday life of the Roma (where and how they studied, lived, and worked) including direct intervention into the bodily spaces of Roma women in the form of sterilizations (Pulkrábková 2009).

21 With the exception of lone-parent families headed by men, which usually result from widowerhood (Dudová 2009).

researchers before and after 1989, we can see, as Marta Vohlídalová shows in Chapter 6 of this book, that they indeed took advantage of the opportunities offered by the family policy and having a family is something they saw as well-compatible with having an academic career and as a norm.

The shifts towards what Oates-Indruchová (2012) calls the “residual patriarchal discourse” (i.e., the normative division of roles mostly copying the division in place prior to the Second World War) were exacerbated by the fall of state socialism in 1989. Before 1989, discrimination against women both in the workplace and in the home was never eradicated despite some of the above-mentioned positive developments. Women faced both vertical and horizontal segregation in the workplace (Einhorn 1993), and received less money for the same amount of work, which would often be accounted for by pointing to their “natural” characteristics and caring duties outside the workplace (Havelková 2014; Křížková and Vohlídalová 2009) as well as by the still-accepted view of men as the primary, even if not sole breadwinners, which made them eligible for higher wages.

As stated at the beginning of this section, the framework of path dependence seems to grasp some crucial aspects of the developments in terms of the gender order in former Czechoslovakia and next the Czech Republic after 1989. This perspective is somewhat compatible with analysing which discursive frameworks are used in normative claims regarding gender order, i.e., looking into what parallel discourses on gender seem to operate at a given time and in a given space (Oates-Indruchová 2012). Such an approach allows us to see that the turn to familialism (Hašková, Saxonberg and Mudrák 2012) in terms of state family policy is not so much the claimed result of an ideological breakaway with a past that has proven to be wrong through geopolitical developments, but was painted as such in neoliberal policy recommendations from bodies such as the World Bank (Víšek 2006). Rather, it is possible to show that most of the legislation regulating issues such as the provision of public childcare shows a very strong path dependence in

most respects, including the regulation of reproductive rights of migrant women (Dudová 2012). Moreover, in compliance with the perspective of residual discourses suggested by Oates-Indruchová (2012), Hašková and Saxonberg (2015) have demonstrated that the roots of the present familialist family policy that is in place in the Czech Republic actually reaches as far back as to the Austro-Hungarian Empire.

The conditions in which contemporary Czech women researchers have to live their lives and build their careers is thus marked by several contradictory discourses in an overarching conservative gender order that identifies women primarily with their reproductive and caregiving roles and less with their role as full-time employees. Despite that they still need to navigate an economy where having a family has traditionally been very much materially contingent on having two incomes (Kantorová 2006), which has a highly negative impact on lone-parent families (Dudová 2009). Such discourses have concrete effects in terms of the division of household chores that still in many cases copy the unequal double burden of their division (Dudová et al. 2007). Although women were already critical of the uneven distribution of household responsibilities under state socialism (Zábrodská 2014), feminist discourses have faced a backlash ever since 1989 when civic organizations were once again able to form. Thus, the long pre-1948 history of the local women's movement was not revived and claiming a feminist identity might have been (often justifiably) seen as risky, dangerous, or even extremist.²²

22 According to some, the poor local reputation of feminism partly stems from the position of feminist/gender/women's studies in the West around 1989, which was affected by a backlash, meaning that feminism was publicly criticized and blamed for many social problems. Gender studies programmes were also experiencing a wave of shut-downs, and these factors meant public discourse was relatively hostile towards feminism, which allowed for the transfer of many of the arguments to environments with a distant but rich feminist past (Cerwonka 2008). Moreover, highly negative comments regarding some aspects of promoting gender equality also in academic environments abroad in the "West" were reported by some émigrés (Škvorecký 1992a, 1992b, 1992c; Ulč 1994) in an exceptional epistemological position, which provided

This has affected the mobilization capacity of most social movements in the Czech Republic (Císař 2008). Political scientists coined the term “transactional activism” to describe the type of activism prevalent in many European post-socialist countries (Petrova and Tarrow 2007). It is characterized by low mobilization and a high reliance on small advocacy-based activist groups negotiating directly with the government and relying on inter-organizational networking. It is therefore not surprising that the often dire situation of women researchers has not led to the formation of a “movement” but is rather the focus of the Centre for Gender and Science at the Institute of Sociology of the Czech Academy of Sciences. The few “grassroots” initiatives that have occurred mostly focus on establishing childcare facilities at universities and research institutes. Once established, there is no follow-up activism, which is partly down to the misrecognition of a specifically gendered bias in research and HE institutions and is probably also partly because of the extremist label that feminism has in Czech society. In recent years, however, we have also witnessed the emergence of a few openly feminist initiatives of university students (such as the collective Fourth Wave²³ and the Feminist Society²⁴). The focus of these organisations is logically on issues that primarily concern students, such as sexual harassment and open sexism, and less on issues specific to women researchers. Whether their openly feminist activism will translate into advocacy for women researchers and HE lecturers remains to be seen.

The introductory chapter has shown that there are highly qualified women in the Czech Republic, often with very promising early academic achievements (Tupá 2007). Their development has been shown to substantially slow down and stall as their careers and lives unfold (Vohlídalová 2014) in an academic environment that has undergone some aspects of a

their personal negative views on feminism with a disproportionate amount of public attention (Oates-Indruchová 2004).

23 <https://www.facebook.com/ctvrtavlna/>.

24 <https://www.facebook.com/femuk>.

neoliberal reform (Linková and Stöckelová 2012) with clearly gendered consequences that are underpinned by the changes to the gender order. These can be broadly characterized as a turn to familialism in terms of family policy, which in combination with gender discrimination in the labour market (Machovcová 2007) leads to the perceived necessity for women (but not men) to choose either to work or to care for small children (Křížková and Vohlídalová 2009). Since the research system reform also stresses a linear career path without any breaks (including those accounted for), being a (young) woman researcher and having a family is hardly compatible. Being a young man researcher is not very well compatible with a research career either, because postdoc positions in public research especially are paid very poorly. In combination with gendered stereotypical expectations regarding roles seen as appropriate for men and women, this fact also limits men's possibilities for starting a family while developing a research career. Moreover, it also makes it almost impossible for men to be caregivers (Červinková 2010). These very same expectations then arguably also negatively affect the enforceability of laws that concerns discrimination, as there are very few cases ever brought to court or to the Public Defender of Rights.

Location and feminist thought

The issues outlined above suggest that the grand narrative of transitology does not apply when it comes to gender order in the Czech Republic and its developments. Rather, the path dependence perspective manages to grasp some of the developments, especially in terms of gender culture and gender order as expressed through legislation on childcare. This is where conservatism already started to prevail in the 1970s and was only strengthened by the social policy reforms of the 1990s. Nevertheless, other types of path dependence failed to materialize. One such instance is the long tradition of the women's movement, organizations, and involvement in public life that is not part of a shared history. This allows those opposing feminist thought to paint it as an "import from the West" (Šiklová 1993).

How are we to understand these developments and ill-fitting frameworks? Are these all just some local peculiarities and aberrations? How come they have not contributed much to disproving the grand narratives regarding the Cold War? Why have they tended to come across only in highly localized case studies? Since the theoretical underpinning of this volume is that of feminist studies of science, I look for the answer in feminist thought. Namely, I focus on what role feminism has ascribed to location and whether and how this has affected the standing of local feminist theorizing and analysis, including the one regarding research. Is there a link between what role local feminist and gender studies play in global feminist and gender studies and how the local feminist analysis of research has been framed?

All of the geopolitical frameworks mentioned in the first section of this chapter have been reflected in feminist thought. Geopolitical location and its history started to be recognized in feminism especially in the 1980s as a result of critiques by women of colour (Hooks 1981; Moraga and Anzaldúa 1983) and postcolonial feminism (Mohanty 1988; Spivak 1988). One of the central points of the critique was that the epistemological frameworks of standpoint theory (Haraway 1988; Harding 1986) were only used selectively, hiding important aspects of the situatedness of those producing new, seemingly-critical feminist knowledge about society and women's position in it. Giving a voice to those previously devoid of it was often done without focusing on other characteristics besides gender that affected their lived experience. This in turn led to stressing intersectionality as a remedy because it studies the intersection of several social axes of discrimination within one subjectivity. In the CEE context, what stands out is the focus on race and ethnicity, which may indirectly lead to further²⁵ making the majority white women of the CEE invisible.

Paradoxically, we can see this in Rich's (1986) focus on the politics of location. While stressing the importance of recognizing the particularity

25 They are also made invisible through the effective erasure of the Second World.

of one's own situatedness within the geopolitics of the world, she questioned the foundations of "global sisterhood" as an inadvertently ethnocentric universalizing concept. Following this direction, Yuval-Davis (1994) coined the term *transversal politics*, which hopes to escape both the traps of identity politics and those of universalism. The core idea is to start a dialogue across various locations without reifying their uniqueness, but at the same time without simply looking for the basic common denominator. The approach is contingent on striving to imagine one another's position and its consequences, in hopes of overcoming the relativism for which the politics of location has been criticized. Clearly, some differences are irreconcilable (Ang 2003a, 2003b; Braidotti 2010), but this should not hamper the attempts at leading a dialogue. Such an approach, aiming at undoing the gendered geopolitical distribution of power and influence can be seen, for example, at international conferences where speakers are allowed to use other languages than English.²⁶

Although both the politics of location and transversal politics have been around for quite some time, they can be hardly seen as the driving forces of academic feminism. Rather, what we witness is sticking to a set of recognized, well-established narratives (Hemmings 2005; Wöhrer 2016) that relate to the past of feminist struggles and that de facto copy the divisions outlined in the opening section of this chapter. Counter-feminist histories have surely emerged (De Haan, Francisca, Daskalova, Kassimira and Loufti 2006), but they have not really taken centre stage and remain the voices that are deemed to be of secondary and only partial importance exactly because of their perceived situatedness as opposed to the universalism of theories and histories coming from the core—or cores, as Wöhrer points out (Loufti 2009).

Some authors therefore started to theorize their situatedness vis-à-vis mainstream feminist theory. Blagojevic (2005) has elaborated on the

26 I have witnessed this practice at the International Sociological Association's conference in Yokohama in 2014.

concept of a geopolitical world centre (in the West) and periphery (East)²⁷ by including a semi-periphery where those on the road to the centre and no longer in the East find themselves locked. Blagojevic (2005) is not so much interested in the geopolitical situation as such, but focuses on the consequences such a division has on the possibility of knowledge (and theory) production of those not situated in the centre. Besides claiming that CEE states are on the semi-periphery defined by its constant instability (it could fall into the periphery any moment), Blagojević also differentiates between the epistemological roles available based on the geopolitical location of the “knowers”. Thus, those located in the centre are the “creators” of knowledge while those outside the centre can only occupy the positions of “transmitters”—those who have the capacity to grasp and “translate” the theories produced by the centre and disseminate them to the semi-periphery and periphery, and “users”,—those who locally apply the theories and epistemologies created by the centre. Blagojević emphasizes the inequality that prevents the counter-flow and questions the very possibility of those not in the centre to create globally recognized theories. Her approach thus accentuates the epistemological repercussions of geopolitics rather than merely pointing out the material and power differentials. In terms of feminist science studies, the impact of this geopolitical distribution of academic power materializes in the form of publication possibilities for example, as it is much easier to academically market one’s otherness and peculiarity rather than attempt at deriving theoretical contributions from local research.

A similar approach, dissecting the epistemological consequences of the situatedness on the European semi-periphery, can also be found in Pereira (2014a). However, her focus is on the other side of the same coin, the discursive means that this very location offers. Scholars and activists working in the area of gender studies and activism have identified and used the leverage offered by the possibility to point out that the local

27 Kampichler (2010, 2012) calls the dialogue that developed between the CEE and some Western authors “feminist East/West debates”.

situation clearly lags behind the more developed core. In terms of implementing gender equality in the Czech research context, this strategy has proven vital as the very operation of the Centre for Gender and Science shows—when collaborating with research and higher education institutions, it is clear that they are frequently much easier to mobilize for change by pointing out how gender equality policies and a more equal environment will improve the image of the respective institution.

Power differentials contingent on the meanings attributed to geopolitical location together with a geopolitically informed interpretation of global and local history impact what epistemologies are given primary concern, what languages are used to convey them, and which countries and systems may be used as models and are the sought after locations for PhD and postdoc fellowships. However, if we are to truly start a transversal dialogue, the limitations of divisions such as those of East and West and core and semi-periphery and periphery need to be acknowledged and actively explored. Such divisions run the risk of homogenizing and solidifying the very divides and hierarchies they criticize and prove to be misleading in many respects (Kampichler 2010). While concepts such as transculturation, hoping to substantiate the mutual rather than unidirectional travels of feminist thought (Cerwonka 2008), have received much attention, it seems they are still not running the show (Hemmings 2005; Wöhrer 2016).

Conclusion: Location matters

The local feminist analysis of research has frequently been deeply rooted in the logic of transition and Cold War discourse. One of the concrete consequences of this approach has been the limited opportunities for publishing findings based on the local experience with transnational relevance. It has been shown that although gender equality is embraced on the political level much more readily in many countries used as models locally, this does not necessarily mean actual recognition of its relevance even in these countries (Pereira 2014b).

Thus, lessons learned from what effects a neoliberal reform of the research system may have in such an environment are hardly locally limited and could be used not as peculiar local case studies of how the “transition” proceeds but rather as dystopian “postcards from the future”. I am appropriating here a metaphor Professor Gabriele Griffin used at the RINGS conference *Gender in/and Neoliberal University* held in Prague on November 5–6, 2015. In her presentation of how neoliberal reforms have impacted British academia, she embraced the idea that the United Kingdom, with its long-term neoliberal government, leads the way in terms of how society should be restructured to function “better”, at least within the EU. I use her metaphor because I believe that feminist discourses have been long undermined in the Czech Republic and it is therefore possible to see how particular neoliberal reforms impact such an environment, which could enable us all to see how vital it is to fight that very undermining. The backlash against attempts to truly transform the gender order and related cultures that we can see as part and parcel of the reforms currently implemented in the United Kingdom already started in the 1960s in former Czechoslovakia. Although taking a different shape due to the geopolitical situation at the time, the state of a stalled emancipation proclaimed to be fully accomplished and complete and thereby making feminism obsolete is hardly foreign to the countries of the “core” (Hawkesworth 2004; McRobbie 2009).

It has to be acknowledged that transition logic has made it much more difficult to learn such lessons exactly because of how it still manages, together with Cold War discourse, to influence how local epistemologies are viewed, even by local actors. The trap of the never-ending catching-up *de facto* rules out the possibility of gleaning similar insights from a region that struggles to reach the “Western golden standard”. We strongly believe that the present volume will help challenge at least some of the frameworks outlined above, especially when they are used to homogenize and solidify the perceived “difference” that has so far effectively prevented the opening of a transversal dialogue on the relevance, shapes, and impacts of gender in academic production and environment.

The following chapters are thus to be read with the questions and challenges made here in mind.

Literature

- Agostini, Ch., V. Lisi, D. Natali and S. Sabato. 2017. 'Czech Republic.' Pp. 31–46 in *Balancing Protection and Investment: Structural Reforms in Five Countries*. Brussels: ETUI aisbl.
- Alam, A., P. Anós Casero, F. Khan and Ch. Udomsaph. 2008. *Unleashing Prosperity*. Washington, D.C. Retrieved 13 September 2015 (<http://siteresources.worldbank.org/ECAEXT/Resources/publications/UnleashingProsperity.pdf>).
- Ang, I. 2003a. 'I'm a Feminist But ... 'Other' Women and Postnational Feminism.' Pp. 190–206 in *Feminist Postcolonial Theory: A Reader*, edited by R. Lewis and S. Mills. New York: Routledge.
- Ang, I. 2003b. 'Together-in-Difference: Beyond Diaspora, into Hybridity.' *Asian Studies Review* 27 (2): 141–54.
- Bagilhole, B. and H. Woodward. 1995. 'An Occupational Hazard Warning: Academic Life Can Seriously Damage Your Health. An Investigation of Sexual Harassment of Women Academics in a UK University.' *British Journal of Sociology of Education* 16 (1): 37–51.
- Balazs, K., W. Faulkner and U. Schimank. 1995. 'Transformation of the Research Systems of Post-Communist Central and Eastern Europe: An Introduction.' *Social Studies of Science* 25 (4): 613–632. Retrieved 21 March 2015 (<http://www.jstor.org/stable/285711>).
- Bennett, K. 2009. 'English Academic Style Manuals: A Survey.' *Journal of English for Academic Purposes* 8: 43–54.
- Bennett, K. 2013. 'Resistant Translation in the Global Knowledge Exchange: Can It Combat Epistemicide?' Keynote Speech given at Interdisciplinary Conference – *Did Anyone Say Power?*
- Blagojevic, M. et al. 2004. *Waste of Talents: Turning Private Struggles into a Public Issue*. Retrieved 22 March 2015 (<http://www.europa.nl/research/science-society/women/enwise/pdf/enwise-report-02-intro.pdf>).

- Blagojevic, M. 2005. 'Creators, Transmitters, and Users: Women's Scientific Excellence at the Semiperiphery of Europe.' *European Education* 36 (4): 70–90.
- Braidotti, R. 2010. 'On Nomadism: Interview with Rosi Braidotti.' *European Alternatives*. (<http://www.euroalter.com/2010/0nnomadism->).
- Buden, B. 2010. 'Children of Postcommunism.' *Identity. Move!* (zotero://attachment/133/).
- Buden, B. 2013. *Konec postkomunismu: od společnosti bez naděje k naději bez společnosti*. Prague: Rybka.
- Cerwonka, A. 2008. 'Traveling Feminist Thought: Difference and Transculturation in Central and Eastern European Feminism.' *Signs: Journal of Women in Culture and Society* 33 (4): 809–832.
- Císař, O. 2008. *Politický aktivismus v České republice. Sociální hnutí a občanská společnost v období transformace a evropeizace*. Brno: Centrum pro studium demokracie a kultury.
- Coogan-Gehr, K. 2011. *The Geopolitics of the Cold War and Narrative of Inclusion. Excavating a Feminist Archive*. New York: Palgrave Macmillan.
- Červinková, A. 2010. '„Postdokovat po světě“: Genderové politiky akademické mobility.' *Gender, rovné příležitosti, výzkum* 11 (1): 49–59. (http://www.genderonline.cz/uploads/0874692f4c84cc0408d86164faaf073f38937b6b_postdokovat-po-svete.pdf).
- David, P. A. 1985. 'Clio and the Economics of QWERTY.' *The American Economic Review*. Retrieved 22 August 2015 (<http://www.jstor.org/stable/1805621>).
- Demetriou, Z. D. 2004. 'Gender Order.' In *Men and Masculinities. A Social, Cultural and Historical Encyclopedia*, edited by M. Kimmel and A. Aronson. Santa Barbara, Denver, Oxford: ABC CLIO.
- Dudová, R. et al. 2007. *Souvislosti proměn pracovního trhu a soukromého, rodinného a partnerského života*. Prague: Sociologický ústav AV ČR.
- Dudová, R. 2009. 'The Rise of Lone-Parent Families – Challenging the Norm.' Pp.135–170 in *Women and Social Citizenship*, edited by

- H. Hašková and Z. Uhde. Prague: Institute of Sociology of the Academy of Sciences of the Czech Republic.
- Dudová, R. 2012. *Interrupce v České republice: zápas o ženská těla*. Prague: Sociologický ústav AV ČR. Retrieved 4 November 2015 (<http://www.soc.cas.cz/publikace/interrupce-v-ceske-republice-zapas-o-zenska-tela>).
- Einhorn, B. 1993. *Cinderella Goes to Market: Citizenship, Gender and Women's Movements in East Central Europe*. Pub. 1. London: Verso.
- Elder, G. H. 1994. 'Time, Human Agency, and Social Change: Perspectives on the Life Course.' *Social Psychology Quarterly* 57 (1): 4–15.
- Engels, F. 2001. *The Origin of the Family, Private Property and the State*. London: Electric Book Co. (<http://site.ebrary.com/lib/natl/Doc?id=10015065>).
- European Commission. 2004. *Report of the Conference Gender and Excellence in the Making*. Luxembourg: Office for Official Publications of the European Communities. (<http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Gender+and+Excellence+in+the+Making#0>).
- European Commission. 2014. 'Promoting Gender Equality in Research and Innovation – European Commission.' Retrieved 27 October 2015 (<http://ec.europa.eu/programmes/horizon2020/en/h2020-section/promoting-gender-equality-research-and-innovation>).
- Felt, U. 2009. *Knowing and Living in Academic Research*. Prague: Institute of Sociology of the Academy of Sciences of the Czech Republic.
- Fischer, S. and R. Sahay. 2000. *The Transition Economies after Ten Years*. Retrieved 24 March 2015 (<http://www.nber.org/papers/w7664>).
- Fodor, E. 2002. 'Smiling Women and Fighting Men: The Gender of the Communist Subject in State Socialist Hungary.' *Gender & Society* 16 (2): 240–263.

- Fox, M. F., C. Fonseca and J. Bao. 2011. 'Work and Family Conflict in Academic Science: Patterns and Predictors among Women and Men in Research Universities.' *Social Studies of Science* 41 (5): 715–35.
- Gieryn, T. 2002. 'Three Truth-Spots.' *Journal of History of the Behavioral Sciences* 38 (2): 113–32.
- González Ramos, A. M., J. Navarrete Cortés and E. Cabrera Moreno. 2015. 'Dancers in the Dark: Scientific Careers According to a Gender-Blind Model of Promotion.' *Interdisciplinary Science Reviews* 40 (2): 182–203.
- De Haan, F., K. Daskalova and A. Loufti. 2006. *A Biographical Dictionary of Women's Movements and Feminisms. Central, Eastern, and South Eastern Europe, 19th and 20th Centuries*. Budapest: CEU Press.
- Haraway, D. 1988. 'Situated Knowledges: The Scientific Question in Feminism and the Privilege of Partial Perspective.' *Feminist Studies* 14 (3): 575–99.
- Harding, S. 1986. *The Science Question in Feminism*. Ithaca, London: Cornell University Press.
- Hašková, H. 2011. 'Proměny časování a způsobu návratu matek do zaměstnání.' *Gender, rovné příležitosti, výzkum* 12 (2): 40–52.
- Hašková, H., and S. Saxonberg. 2015. 'The Revenge of History – The Institutional Roots of Post-Communist Family Policy in the Czech Republic, Hungary and Poland.' *Social Policy & Administration*.
- Hašková, H., S. Saxonberg and J. Mudrák. 2012. *The Development of Czech Childcare Policies*. Prague: Sociologické nakladatelství (SLON).
- Hašková, H. and Z. Uhde. 2009. *Women and Social Citizenship in Czech Society: Continuity and Change*. Prague: Sociologický ústav AV ČR.
- Haughton, T. and K. Deegan-Krause. 2015. 'Hurricane Season: Systems of Instability in Central and East European Party Politics.' *East European Politics & Societies* 29 (1): 61–80. Retrieved 4 November 2015 (<http://eep.sagepub.com/cgi/doi/10.1177/0888325414566072>).

- Havelková, B. 2009. 'Pracovní Právo.' Pp. 478–512 in *Komunistické právo v Československu. Kapitoly z dějin bezpráví*, edited by M. Bobek, M. Molek and V. Šimíček. Brno: Mezinárodní politologický ústav, Masarykova univerzita. (<http://www.komunistickepravo.cz>).
- Havelková, B. 2014. 'The Three Stages of Gender in Law.' Pp. 31–56 in *The Politics of Gender Culture under State Socialism: An Expropriated Voice*, edited by H. Havelková and L. Oates-Indruchová. New York: Routledge.
- Havelková, H. and L. Oates-Indruchová. 2014. *The Politics of Gender Culture under State Socialism. An Expropriated Voice*. London, New York: Routledge.
- Hawkesworth, M. 2004. 'The Semiotics of Premature Burial: Feminism in a Postfeminist Age.' *Signs: Journal of Women in Culture and Society* 29 (4): 961–85.
- Hemmings, C. 2005. 'Telling Feminist Stories.' *Feminist Theory* 6 (2): 115–39.
- Hooks, B. 1981. *Ain't I a Woman? Black Women and Feminism*. Boston: South End Press.
- Horký, O. 2008. 'Gender a rozvoj. Co nás rozděluje, co nás spojuje.' *Gender, rovné příležitosti, výzkum* 9 (2): 10–21.
- Huntington, S. P. 1996. *The Clash of Civilizations and the Remaking of World Order*. New York: Simon & Schuster.
- Kampichler, M. 2010. *Feminism East and West? A Contextualized Analysis of Framings in the Anthology Gender Politics and Post-Communism*. Masaryk University, Brno (Dissertation Thesis).
- Kampichler, M. 2012. 'Za hranice feministických diskusí mezi Východem a Západem.' *Gender, rovné příležitosti, výzkum* 13 (2): 4–14.
- Kantorová, V. 2006. 'Education and Entry into Motherhood in the Czech Republic during State-Socialism and the Transition Period 1970–1997.' Pp. 237–258 in *Education and Postponement of Maternity. Economic Analyses for Industrialized Countries*, edited by S. Gustafsson and A. Kalwij. Dordrecht: Springer.

- Kolářová, M. 2009. *Protest proti globalizaci: gender a feministická kritika*. Prague: Sociologické nakladatelství (SLON).
- Kolářová, M. 2010. 'Od globálního sesterství k transnacionálnímu feminizmu: výzvy ženskému hnutí ve formě kulturních odlišností a nerovností mezi ženami.' *Gender, rovné příležitosti, výzkum* 11 (2): 30–40.
- Kramer, M. 2007. 'Enough Said.' *Commentary* 123 (3): 63–67.
- Krüger, H. 2009. 'The Life-Course Regime: Ambiguities between Interrelatedness and Individualization.' Pp. 159–77 in *The Life Course Reader. Individuals and Societies across Time*, edited by R. Heinz, J. Huinink and A. Weymann. Frankfurt, NY: Campus Verlag.
- Krüger, H. and R. Lévy. 2001. 'Linking Life Courses, Work, and the Family: Theorizing a Not so Visible Nexus between Women and Men.' *Canadian Journal of Sociology* 26 (2): 145–66.
- Křížková, A. and M. Vohlídalová. 2009. 'Rodiče na trhu práce: mezi prací a péčí.' *Sociologický časopis–Czech Sociological Review* 45 (1): 31–60.
- Leemann, R. J. 2010. 'Gender Inequalities in Transnational Academic Mobility and the Ideal Type of Academic Entrepreneur.' *Discourse: Studies in the Cultural Politics of Education* 31 (5): 605–25.
- Linková, M. et al. 2008. *Reclaiming a Political Voice: Women and Science in Central Europe*. Prague: SOÚ. (<http://www.zenyaveda.cz/files/re-claimingvoice-wsdfinal-eng.pdf>).
- Linková, M. and T. Stöckelová. 2012. 'Public Accountability and the Politicization of Science: The Peculiar Journey of Czech Research Assessment.' *Science and Public Policy* 39 (5): 618–29.
- Linková, M. 2013. 'V pasti dějin: křížovatky feminizmu a neoliberalismu v Evropské politice genderové rovnosti ve vědě.' Pp. 148–73 in *Nejisté vyhlídky: Proměny vědecké profese z genderové perspektivy*, edited by A. Červinková, M. Linková, K. Cidlinská and M. Vohlídalová. Prague: Sociologické nakladatelství (SLON).
- Linková, M. and A. Červinková. 2013. '„Vlastní laboratoř“: Akademické trajektorie a gender v současných biovědách.' *Gender, rovné*

- příležitosti, výzkum* 14 (1): 15–26. (http://www.genderonline.cz/uploads/90ad1ebe5e19555dd25eecf4966dead5dc744f79_linkova-cervinkova-vlastni-laborator.pdf).
- Linková, M. and T. Stöckelová. 2012. 'Public Accountability and the Politicization of Science: The Peculiar Journey of Czech Research Assessment.' *Science and Public Policy* 39 (5): 618–29.
- Lišková, K. 2016. 'Sex under Socialism: From Emancipation of Women to Normalized Families in Czechoslovakia.' *Sexualities* 19 (1–2): 211–35. (<http://sex.sagepub.com/cgi/doi/10.1177/1363460715614246>).
- Loufti, A. 2009. 'Politics and Hegemony in the Histiography of Women's Movements.' Pp. 81–100 in *Wie Frauenbewegung Geschrieben Wird: Historiographie, Dokumentation, Stellungnahmen, Bibliographien*, edited by J. Gehmacher and N. Vittorelli. Vienna: Löcker Verlag.
- Macmillan, R. and R. Copher. 2005. 'Of Families in the Life Course: Interdependency and Pathways Roles, Role Configurations.' *Journal of Marriage and Family* 67 (4): 858–79.
- Machovcová, K. ed. 2007. *Women on the Labour Market: Today and in the Future*. Prague: Gender Studies, o.p.s.
- Maříková, H., H. Hašková and Z. Uhde. 2009. 'Who Cares and Who Cared? Leaves, Allowances, and Facilities: Childcare Past and Present.' Pp. 77–134 in *Women and Social Citizenship*, edited by H. Hašková and Z. Uhde. Prague: Institute of Sociology of the Academy of Sciences of the Czech Republic.
- Mason, M. A. and M. Goulden. 2004. 'Marriage and Baby Blues: Redefining Gender Equity in the Academy.' *The ANNALS of the American Academy of Political and Social Science* 596: 86–103.
- McRobbie, A. 2009. *The Aftermath of Feminism: Gender, Culture and Social Change*. London, Los Angeles: SAGE.
- Melegh, A. 2006. *On the East-West Slope: Globalization, Nationalism, Racism and Discourses on Eastern Europe*. (1st ed.). New York: Central European University Press.

- Mirskaya, E. Z. 1995. 'Russian Academic Science Today: Its Societal Standing and the Situation within the Scientific Community.' *Social Studies of Science* 25 (4): 705–25. Retrieved 21 March 2015 (<http://www.jstor.org/stable/285715>).
- Mlčoch, L. 2001. 'Deset lekcí z deseti let české transformace.' *Finance a úvěr* 51 (4): 193–205.
- Moen, P and S. Sweet. 2002. 'Two Careers, One Employer: Couples Working for the Same Corporation.' *Journal of Vocational Behavior* 61 (3): 466–83.
- Mohanty, Ch. T. 1988. 'Under Western Eyes: Feminist Scholarship and Colonial Discourses.' *Feminist Review* 30 (1): 61–88. Retrieved 13 September 2015 (<http://www.palgrave-journals.com/fr/journal/v30/n1/abs/fr198842a.html>).
- Moraga, Ch. and G. Anzaldúa. 1983. *This Bridge Called My Back. Writings by Radical Women of Colour*. New York: Kitchen Table, Women of Colour Press.
- Mosoni-Fried, J. 1995. 'Industrial Research in Hungary: A Victim of Structural Change.' *Social Studies of Science* 25 (4): 777–803. Retrieved 21 March 2015 (<http://www.jstor.org/stable/285718>).
- Muller, K. 1995. 'Changes on the 'Borderlines' between Research and Industry Following Economic Transformation in the Czech Republic.' *Social Studies of Science* 25 (4): 805–28. Retrieved 21 March 2015 (<http://www.jstor.org/stable/285719>).
- Myant, M. and J. Drahoukoupil. 2013. *Tranzitivní ekonomiky. Politická ekonomie Ruska, východní Evropy a Střední Asie*. Prague: Academia.
- Nečasová, D. 2011. *Buduj vlast – posílíš mír!: Ženské hnutí v českých zemích 1945–1955*. Brno: Matice moravská. Retrived 4 November 2015 (http://aleph.nkp.cz/F/RQDE8BKMD9VNU8VNIQG7YJ1PHMG17JGGPYI3Y94KYCXR86P7QQ-07275?func=full-set-set&set_number=110754&set_entry=000003&format=999).
- Nesvetailov, G. 1995. 'Changing Centre-Periphery Relations in the Former Soviet Republics: The Case of Belarus.' *Social Studies of*

- Science* 25 (4): 853–71. Retrieved 21 March 2015 (<http://www.jstor.org/stable/285721>).
- Neubauer, J. 2003. 'What's in a Name? Mitteleuropa, Central Europe, Eastern Europe, East-Central Europe.' *Kakainen Revisited* 7 (5): 1–11. Retrieved 13 September 2015 (<http://www.kakanien-revisited.at/beitr/theorie/JNeubauer1.pdf>).
- Nyklová, B. 2014. *Czech Feminist Scene: Theoretical Inclinations, Stances, and Controversies*. Dissertation at Charles University in Prague.
- Oates-Indruchová, L. 2004. 'Transforming and Emerging: Discourses of Gender in the Czech Culture of the Transition Period.' Pp. 107–17 in *Representing Gender in Cultures*, edited by E. H. Oleksy and J. Ryzewska. Frankfurt am Main: Peter Lang.
- Oates-Indruchová, L. 2008. 'The Limits of Thought?: The Regulatory Framework of Social Sciences and Humanities in Czechoslovakia (1968–1989).' *Europe-Asia Studies* 60 (10): 1767–82.
- Oates-Indruchová, L. 2012. 'The Beauty and the Loser: Cultural Representations of Gender in Late State Socialism.' *Signs: Journal of Women in Culture and Society* 37 (2): 357–83.
- Owczarzak, J. 2009. 'Introduction: Postcolonial Studies and Postsocialism in Eastern Europe.' *Focaal* 2009 (53): 3–19.
- Page, S. E. 2006. 'Path Dependence.' *Quarterly Journal of Political Science* (1): 87–115. Retrieved 22 August 2015 (<http://math.unife.it/economia/lm.economia/insegnamenti/economia-applicata-avanzata/materiale-didattico-1/frattini/ff3-page2006.pdf>).
- Pereira, M. do Mar. 2014a. 'The Importance of Being 'Modern' and Foreign: Feminist Scholarship and the Epistemic Status of Nations.' *Signs* 39 (3): 627–57.
- Pereira, M. do Mar. 2014b. 'Toxic Corridor Talk: The Dismissal of Feminist Research in Everyday Academic Life.' *Newsletter of the Feminist and Women's Studies Association (UK and Ireland)* 62 (May): 14.

- Petrova, T. and S. Tarrow. 2007. 'Transactional and Participatory Activism in the Emerging European Polity: The Puzzle of East Central Europe.' *Comparative Political Studies* 40 (1): 74–94.
- Petrusek, M. 2004. 'Výuka sociologie v čase tání a v časech normalizace (1964–1989).' (kapitola o vztahu vědění a moci, vědy a politiky, reality a mýtotovorby) *Sociologický časopis/Czech Sociological Review*: 597–607.
- Pulkrábková, K. 2009. 'The Roma Minority: Changing Definitions of Their Status.' Pp. 171–210 in *Women and Social Citizenship*, edited by H. Hašková and Z. Uhde. Prague: Institute of Sociology of the Academy of Sciences of the Czech Republic.
- Rich, A. 1986. 'Towards a Politics of Location.' Pp. 210–231 in *Blood, Bread, and Poetry: Selected Prose, 1979–1985*. New York: Norton.
- Rohrshneider, R. 1994. 'Report from the Laboratory: The Influence of Institutions on Political Elites...' *American Political Science Review* 88 (4): 927–42.
- Said, E. 1994. *Orientalism*. New York: Vintage Books. Retrieved 22 August 2015 (<http://www.amazon.com/Orientalism-Edward-W-Said/dp/039474067X>).
- Saxonberg, S., H. Hašková and J. Mudrák. 2012. *The Development of Czech Childcare Policies*. Prague: Sociologické nakladatelství.
- Scott, H. 1976. *Women and Socialism: Experiences from Eastern Europe*. Alison & B. London.
- Shields, S. 2012. *The International Political Economy of Transition: Neoliberal Hegemony and Eastern Central Europe's Transformation*. London, New York: Routledge.
- Schimank, U. 1995. 'Transformation of Research Systems in Central and Eastern Europe: A Coincidence of Opportunities and Trouble.' *Social Studies of Science* 25 (4): 633–53. Retrieved 21 March 2015 (<http://www.jstor.org/stable/285712>).
- Spivak, G. C. 1988. 'Can the Subaltern Speak?' Pp. 271–313 in *Marxism and the Interpretation of Culture*, edited by C. Nelson and L. Grossberg. Basingstoke: Macmillan Education.

- Stark, D. and L. Bruszt. 1998. *Postsocialist Pathways: Transforming Politics and Property in East Central Europe*. 1st pub. Cambridge: Cambridge University Press.
- Stiglitz, J. 1999. 'Whither Reform? – Ten Years of the Transition.' Pp. 127–171 in *The Rebel Within*, edited by C. Ha-Joon. London: Wimbledon Publishing Company.
- Stöckelová, T. 2012. 'Immutable Mobiles Derailed: STS, Geopolitics and Research Assessment.' *Science, Technology & Human Values* 37 (2): 286–311.
- Šebková, H. 1994. 'Institutions of Higher Education and the Czech Academy of Sciences in the Transitional Period.' *European journal of education* 29 (1): 97–107.
- Šiklová, J. 1993. 'McDonads, Terminators and Coca Cola Ads and Feminism? Imports from the West.' In *Bodies of Bread and Butter: Reconfiguring Women's Lives in the Post-Communist Czech Republic*, edited by S. Trnka and L. Busheiken. Prague: Prague Gender Studies Centre.
- Škvorecký, J. 1992a. 'Je možné mluvit a psát správně bez diskriminace?' *Respekt*: 13.
- Škvorecký, J. 1992b. 'Je možné mluvit se ženou bez pohlavního obtěžování?' *Respekt*: 13.
- Škvorecký, J. 1992c. 'Je možný sex bez znásilnění?' *Respekt*: 10.
- Švihlíková, I. 2011. 'Reforms in the Czech Republic – Towards Social Darwinism.' *transform!* (9): 74–85. (<http://www.transform-network.net/uploads/media/2012-09-en-journal.pdf>).
- Todorova, M. N. 2009. *Imagining the Balkans*. Updated ed. Oxford: Oxford University Press.
- Tupá, B. 2007. *Dámský gambit: zahájení vědecké dráhy*. Prague: Sociologický ústav AV ČR.
- Ulč, O. 1994. 'Přízrak sexuálního harašení.' *Mladý svět*.
- Večerník, J. 1999. 'Střední vrstvy v české transformaci.' *Sociologický časopis* 35 (1): 33–51. Retrieved 30 March 2015 (<http://sreview.soc.cas.cz/>)

- uploads/0a7d7f41ca6544a78359a66a7fe358c4c7bcb0ec_215_033V
ECER.pdf).
- Večerník, J. 2002. 'Výzkum společenské transformace a česká sociologie / Transition Studies and Czech Sociology.' *Sociologický Časopis / Czech Sociological Review* 38 (1/2): 55–77. Retrieved 24 March 2015 (<http://www.jstor.org/stable/41131675>).
- Vedres, B. 2004. 'Testing Narratives of Post-Socialism: Transition and Sequence Approaches to the Ownership Histories of the Largest Hungarian Corporations, 1991–1999.' Retrieved 29 March 2015 (https://www.academia.edu/2977838/Testing_Narratives_of_Post-socialism_Transition_and_Sequence_approaches_to_the_Ownership_Histories_of_the_Largest_Hungarian_Corporations_1991-1999).
- Víšek, P. 2006. *Rodičovský příspěvek, minulost a budoucnost*. Prague: MPSV. (<http://www.mpsv.cz/cs/3611>).
- Vliegenthart, A. 2010. 'Bringing Dependency Back In: The Economic Crisis in Post-Socialist Europe and the Continued Relevance of Dependent Development.' *Historical Social Research* 35 (2): 242–65. Retrieved 24 March 2015 (<http://search.ebscohost.com/login.aspx?direct=true&db=sih&AN=50544955&site=ehost-live>).
- Vodochodský, I. 2007. "*Superženy*" a "*velké děti*": *Konceptualizace postavení mužů v rámci genderového řádu státního socialismu*. Prague. ([http://publication.fsv.cuni.cz/attachments/324_241_012 – Vodochodsky.pdf](http://publication.fsv.cuni.cz/attachments/324_241_012-Vodochodsky.pdf)).
- Vohlídalová, M. 2012. *Vědci a vědkyně v pohybu: o akademické mobilitě*. Pub. 1. Prague: Sociologický ústav AV ČR.
- Vohlídalová, M. 2014. *Rozebraná partie: talentky sedm let poté*. Pub. 1. Prague: Sociologický ústav AV ČR.
- Weiss, T. 2011. 'Projecting the Re-Discovered: Czech Policy towards Eastern Europe.' *Perspectives: Central European Review of International Affairs* 19 (2): 27–44. Retrieved 13 September 2015 (<http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=70423868&site=ehost-live>).

- Welsh, H. A. 1994. 'Political Transition Processes in Central and Eastern Europe.' *Comparative Politics* 26 (4): 379–94. Retrieved 24 March 2015 (<http://www.jstor.org/stable/422022> (March 24, 2015)).
- Williamson, J. 1990. 'What Washington Means by Policy Reform.' Pp. 7–38 in *Latin American Adjustment: How Much Has Happened?* Washington, D.C.: Institute for International Economics.
- Wöhler, V. 2016. 'Gender Studies as a Multi-Centred Field? Centres and Peripheries in Academic Gender Research.' *Feminist Theory* 17 (3): 323–43. (<http://fty.sagepub.com/cgi/doi/10.1177/1464700116652840>).
- Wolff, L. 1994. *Inventing Eastern Europe: The Map of Civilization on the Mind of the Enlightenment*. Stanford: Stanford University Press.
- Wolchik, S. L. 1995. 'The Politics of Transition in Central Europe.' *Problems of Post-Communism* 42 (1): 35. Retrieved 24 March 2015 (<http://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=9502140780&site=ehost-live>).
- Yuval-Davis, N. 1994. 'Women, Ethnicity and Empowerment.' *Feminism and Psychology* 4 (1): 179–98.
- Záborská, K. 2014. 'Between Femininity and Feminism: Negotiating the Identity of a 'Czech Socialist Woman' in Women's Accounts of State Socialism.' In *The Politics of Gender Culture under State Socialism: An Expropriated Voice*, edited by H. Havelková and L. Oates-Indruchová. London: Routledge.

2. The Czech Research Landscape: Shifts in Research Organization After 1989

Marcela Linková

The Czech research system underwent a major transformation after 1989, the traces of which can be seen on the symbolic level (in the shifting notions of the public good that science and research are to bring to society), on the institutional level (in the actors and distribution of material resources), as well as on the individual level (in the career paths and subjectivities researchers develop). The single most important change that occurred involves the introduction of competition at all these levels.

In this chapter I will, firstly, introduce the major players in the Czech research and development system and their roles. Secondly, I will briefly chart the historical context and the evolution of the governmentality regime after 1989. Next, I will explore two key areas that have a major effect on gender equality in Czech research, the evolution of research assessment and, relatedly, distribution of research funding; it is these areas where the shift toward competition and competitiveness are clearly at play and which, in the natural sciences in particular, revolve around the shift from dynastic to dynamic organization of labs and institutions. I will close with some remarks on the hybridity of the current system and potential gendered effects of these recent shifts, which will be further explored in subsequent chapters of this book.

Who is who in Czech research?

Research in the Czech Republic is located in the institutes of the Academy of Sciences of the Czech Republic and other public research institutions (e.g. ministerial or sectoral ones), higher education institutions, and in the industrial business enterprise sector. The non-profit research sector is negligible. Established in 1952 as the Czechoslovak Academy of Sciences, the Academy was an umbrella organization for various non-university research institutes, academies and the learned society that existed before the Second World War (Šima and Pabian 2013: 73–74). The Academy was legally defined as the chief component of the socialist research base (Provazník, Filáček, Křížová-Frydová, Loudín and Machleidt 1998; Šima and Pabian 2013: 73). Although the communist regime continued to proclaim the importance of the unity of teaching and research, obsolete technical equipment and lack of teaching staff in universities together with the clear prioritization of the Academy of Sciences as the chief scientific organization continued to undermine this dual mission (*ibid.*). This situation was further aggravated by political interference in the personnel affairs of universities (Šima and Pabian 2013: 77–78). During the state socialist regime the division of labour was strengthened between the Academy of Sciences as a research institution performing basic research, and universities devoted primarily to teaching.²⁸ This split was based on the Soviet model, which itself took inspiration from the French model and amplified it. Thus, while universities focused on tertiary education, the Academy had the right to award CSc. titles

28 This division had political reasons, too. While only people who passed the so-called “political assessment” were allowed to teach at universities (i.e., to come in contact with students) in 1969–1970 after the 1968 Warsaw Pact occupying army forces, the situation in the Academy of Sciences was a little more relaxed and sometimes served as a safe-haven for researchers banned from universities; sectoral research institutions played a similar role. That is not to say, however, that political assessments at the outset of the Normalization did not adversely affect the Academy or that people were not forced to leave for political reasons.

(i.e., Candidate of Sciences, equivalent to a PhD) and controlled major research infrastructures. After 1989, the Academy faced pressure as a “remnant” of the communist past and lost some of its powers (e.g., the right to confer a PhD was transferred to universities²⁹). Nevertheless, the Academy has remained, together with Charles University, the most important basic research organization in the Czech Republic. In fact, the Academy as a whole accounted for 45 % of all scientific publications in the 1993–2009 period, followed by Charles University with about 25 % (Leeuwen and Comesana 2011: 32).

Despite periodic debates about the disbanding of the Academy of Sciences and integration of its institutes into universities, the dual nature of the Czech research system continues even while there are strong ties between higher education and public research sectors. Many researchers at the institutes of the Academy of Sciences teach at universities and there are joint doctoral programmes formed by institutes of the Academy and university faculties. On the institutional level, cooperation between the Academy and universities has been steered through policy instruments. The most important among these was the Research Centres Programme funded by the Ministry of Education, Youth, and Sports (Arnold, Mahieu and Horvath 2011). However, with the influx of additional research and development funding from the Structural Funds Operational Programme Research and Development for Innovation, competition has been amplified since in the previous funding period of 2006–2013 it was primarily universities outside Prague that could apply for this funding. Institutes of the Academy of Sciences—the bulk of which are located in Prague—and Prague universities had only limited options to apply for this funding due to the economic stature of the capital city of Prague.³⁰

29 This has been one of the continued sources of tension between universities and the Academy because the Academy trains about 2,000 doctoral students through joint AS-university PhD programmes (2,019 in 2016) but the per-head student contribution from the state goes to universities.

30 Issues related to the sustainability of the research centres built with the previous Operational Programme are already creating major bottlenecks for the distribution of

There are important differences between the Academy of Sciences and universities related to institutional block funding. The universities receive their budget from the Ministry of Education, Youth, and Sports for two types of activities: One is per-student payments for pedagogical activities, and the other is based on research performance assessment through the Evaluation Methodology. In contrast, the Academy negotiates its own budget with the Minister of Finance. Because of its own budget, the Academy of Sciences has retained power to organize its own research assessment as a basis to distribute its budget among its institutes. So while there is a centralized system for assessing research-performing organizations, its results are basically used only by the Ministry of Education, Youth, and Sports to distribute funding among higher education institutions (and private companies).

As regards the industrial research sector, it may not be far-fetched to say that the 1989 political change, with its attendant shifts in research funding and privatization of state property as well as the economic slump in the 1990s wreaked havoc. Only 5 % of some 250 industrial research organizations survived the wild privatization in the 1990s (Arnold et al. 2011: 46). Companies were closed down or privatized, and sources of funding vanished. New foreign owners closed down research branches in the companies they bought; the formerly-free services industrial research provided to state-owned factories were either no longer required or were to be procured for pay, but available resources were scarce. The various shifts in the organization and funding of industrial research resulted in an orientation towards short-term tasks, development, and testing, rather than research (Provazník et al. 1998: 192; also 177–82).

The governance of research, development, and innovation is dispersed among an array of actors. Among ministries, the most important are the Ministry of Education, Youth, and Sport—which is responsible primarily for international cooperation, international relations, and the

research funding, and will have a major effect on the distribution of the state budget in the near future.

EU policy-making process—and the Ministry of Industry and Trade, which is responsible for the innovation and business enterprise sector. In 1992, the Government Council of the Czech Republic for Scientific Activity and Development of Technologies (today known as the Council for Research, Development, and Innovation, hereinafter the Council) was formed as an umbrella expert and advisory body of the government. While it is an advisory body, it has a number of important functions such as drafting research, development, and innovation budgets. After the 2014 elections, the position of the Vice Prime Minister for Science, Research, and Innovation was instituted in the Czech government with a Science, Research, and Innovation Section, and the plans to establish an independent ministry for higher education and research have resurfaced once again.

An evolving contract for Czech science: From socialist production forces to the engine of national economy and competitiveness

In Western Europe, the Organization for Economic Cooperation and Development played a key role in appropriating science policy and essentially aligning it with economic objectives, defining science policy as an instrument of societal economic development. Since the 1980s this economist vision of science and science policy was reinforced with the onset of neoliberal New Public Management in many countries of Western Europe and beyond. Although the Czech Republic did not join the Organization for Economic Cooperation and Development (OECD) until 1995, the alignment between scientific activity and technological development and national economy was very strong during the entire post-war period until 1989. In 1962, for example, the government adopted Resolution No. 147 on “Increasing the role of science and technology in the development of production forces in the Czechoslovak Socialist Republic”. The 1965 governmental decree on Planned Management of the National Economy identified “state tasks for science and technology”

as the prime instrument to achieve this planned management, with a view to “create economic pressure and material interest in the full application of results of science and technology and support progressive tendencies in our economy”. In 1986, 20 years later, in a discussion of the government’s programme declaration in the Czech National Council the goal was articulated to “exert joint efforts for science to become a truly immediate production force in our reproduction process and to prepare fully-qualified cadres for this work”. The link between theoretical research and “achievement units” is articulated strongly in pre-1989 policy documents, with various institutions established to ensure an “intensification” of the interconnection between science and “praxis”.

After 1989, transformations in higher education and academic research started almost immediately, resulting in the adoption of the 1992 Act on State Support for Scientific Activity and Development of Technologies. The act provided for the establishment of the Government Council of the Czech Republic for Scientific Activity and Development of Technologies (today the Council for Research, Development, and Innovation); established the Czech Science Foundation as a central body of state administration distributing competitive funding; and defined the conditions for funding science through institutional and competitive funding (Provazník et al. 1998: 56). The decade of the 1990s has been described as a period of “lawlessness” without policy steering, when science was left to “the rule of money” during the Klaus administrations (ibid.). To illustrate this rule of money, research staff fell from 137,927 in 1989 to 76,487 in 1991 with a low of 38,752 in 1994. R&D expenditures fell from CZK 21,420 million in 1989 to CZK 12,415 million in 1990, with a low of CZK 9,750 million in 1993 (Provazník et al. 1998: 65). The Academy of Sciences went from 13,896 R&D staff in 1989 to 7,127 in 1993 (ibid.: 69). Gross Expenditure on Research and Development (GERD) went from 4.08 % in 1989 to 1.06 % in 1993 (ibid.: 77), increasing slowly throughout the 2000s up to 1.95 % in 2015.

It was not until 2000 that the first science and technology policy was adopted in the country. Over the course of the last 20 years we can see

a shift in science policy, with increasing stress on economic profitability, commercialization, and applicability. During the 1990s the few policy documents extant operated on the dual priorities of developing the human knowledge and economic prosperity of the country (Vláda České republiky 1994). By 1997 the government emphasized the importance of research and development “*not only* as a contribution to world knowledge *but especially* for the economy of the country and its education” (Vláda České republiky, 1997) (author’s emphasis). The duality is maintained in the first National Research and Development Policy adopted in 2000 which states, “Science [is] a matter-of-fact cultural value, belonging to the basic cognitive needs of a person; on the one hand it satisfies human desire for knowledge and expanding one’s own cognitive horizons, on the other hand it is a condition for producing material goods and the permanent development of society and quality of its education. As such it has short-term and long-term goals.” (Vláda České republiky, 2000)

Subsequent national policies do not refer to expanding cognitive horizons or science as a cultural value. The 2004–2008 National Policy adopted in 2004 uses bureaucratic language to attest to the efficiency of the government when it states that a “[P]olicy of research and development is a standard part of an integrated system of national policies dealing with main areas of the functioning of society in most developed countries,” and links research and development policy primarily to educational and innovation policy and secondarily to employment, information, industry, and trade policies (Vláda České republiky 2004). The 2009–2015 National Policy identifies “advances in research and development resulting in implementing innovation” as the only way for the Czech Republic to face global challenges where “from the national perspective sufficient efficiency in innovation is a necessary prerequisite for maintaining competitiveness, economic growth, and social stability” (Vláda České republiky 2009: 8–9).

If in 2000 the National Policy aimed to tackle “prospective needs of the citizens, society, and economy of the Czech Republic”, “improve the health, quality of life, and increase satisfaction of citizens, competitive

production of products and services, permanent development of society and its education, and tackling global problems of contemporary and future world” (Vláda České republiky 2000), by 2009 the goal was to “stimulate the development of an information society which will lead to a further increase of the competitiveness of the Czech economy and the improvement of the quality of life of inhabitants of the Czech Republic” and creating “an environment which will motivate towards excellent research and the creation of new findings usable in applications and at the same time will lead to an increase in the demand for the results of research and development from the application sphere and its transformation into innovative products and services” (Vláda České republiky 2009: 9). The motto of the 2008 Research, Development, and Innovation Reform is perhaps the most succinct expression of the entrepreneurial gist of Czech research and innovation policy: “Science turns money into knowledge, innovation turns knowledge into money.”³¹ (Vláda České republiky, 2008) In these gradual shifts in tone and stress (e.g. from “and” to “not only but especially”), the reordering of words and disappearance of others we can see the “fingerprints” of changes in the rationality of governance (Shore and Wright 1997: 14). In the governmentality regime today there are no traces of wealth of knowledge, culture, or cognitive horizons; research materializes as focused on economic development and innovation, on products, the “application sphere”, and economic results. The metaphor of research and development as the engine of national economy and competitiveness enacts knowledge production in terms of efficiency and economic performance (cf. Matonoha 2009: 151). Czech research, development, and innovation policy today harnesses science for economic needs.

31 This motto echoes the Danish government’s catchword for their university reform “From idea to invoice”, arguing that academics should develop closer relations with industry and focus on results that would lead to innovations (Carney 2009; Wright n.d.).

With these local enactments of research and development, and their objectives as well as visions of society, Czech policy joins an international neoliberal *policyscape*³² (Carney 2009) of research, development, and innovation. The global research policyscape is increasingly enacted in neoliberal governmentality, building on economic development, competitiveness, with stress on application, commercialization, and marketability, and with novel forms of accountability regimes governing institutions and individuals. The Czech policyscape shares some of these overarching “imaginative regimes” (Carney 2009: 83) related to the neoliberal, growth-oriented EU and OECD research and innovation policy, but the entrepreneurial alignment stabilized in policy documents has not yet produced the variety of bodies and practices introduced in recent years in some other countries (Hellstrom and Jacob 2000; Hemlin 2006).

The moral orders of post-1989 research assessment

A lively scholarly discussion has been going on regarding the recent changes in the organization of research and higher education, globally. These changes have been variously labelled as a shift from Mode 1 to Mode 2 science (Gibbons et al. 1994; Nowotny, Scott and Gibbons 2001), academic capitalism (Slaughter and Leslie 2001), or Triple Helix (Etzkowitiz 2002). Major features of this change include the opening up of science to new, exogenous actors or “stakeholders” (e.g. industrial players, policy makers, various civil society groups such as non-profit research organizations, patient groups, environmental organizations etc.), external control of research, and knowledge production in the so-called context of application with stress on utility and economic result of new knowledge. The neoliberal economic philosophy of New Public Management orients

32 Analysing educational policy, Carney develops the term *policyscape* as increasingly complex landscapes of governance and policy-making with their particular sets of values, visions, and ideologies which are shared by a range of policy actors operating on multiple scales and which influence the ways actors think and make decisions.

these changes, focused on economic profit, an increased role of the market and commercial actors, and competitive tendering for research funding to the detriment of institutional funding (Boden, Cox and Nedeva 2006: 129–130).

The onset of this change was not immediately visible in Czech research after the change of the political regime in 1989. As public statements and interviews with prominent researchers of the older generation attest, for those who lived a major part of their research career under the state socialist regime, the value of basic research, intellectual freedom, freedom of association and movement, and distancing from political concerns all figured very prominently in the researchers' value orientations in the early 1990s, and can be also seen in the early expressions of the science policy charted in the previous section.

The first research assessment in the country was initiated by the Academy of Sciences in 1991–1992, as a means to right past wrongs when merit was not attributed by research quality but by allegiance to the Communist Party. Perhaps not surprisingly, the seeming objectivity of bibliometric indexes such as the impact factor or citation index was regarded, especially by the natural scientists, as a welcome tool to *de-politicize* science, as a way of doing away with an award system based on party affiliation and loyalty. Metrics-based research assessment was regarded as an objective, scientific, internal, self-administered process that would right past wrongs (Linková and Stöckelová 2012). It was a moral undertaking. The transformation of research after 1989 looked to the West, which was perceived as an epistemic centre, in a refusal of the explicit politicization of science and its organization before 1989. This political constellation and the moral orders attached created an environment where conditions for institutional isomorphism were ripe, with researchers themselves acting as a powerful vehicle for institutionalizing research assessment.

However, it was not until 2004 that a national assessment system was adopted, the *Methodology for Evaluating Research and Development Results*, with the support of many researchers, especially from the natural

sciences. Originally, the Methodology was instituted in 2004 to assess the efficiency of institutions, but after 2008 it became a tool to assess the results of research organizations and distribute funding. Thus, the purpose for which the Methodology was adopted changed completely, with serious effects for research organizations and individuals.

The Methodology revolved around the attribution of points for defined results. While particular point allocations have changed on an annual basis, the gist of the system was clear from the outset. Disproportionately higher point scores started to be attributed to high impact journals and certain types of patents (gradually publication in *Nature*, *Science*, and *PNAS* and US, Japanese, and European patents garnered 500 points). Applied results which have not been subjected to any quality review by the Council, and are much more difficult to assess in terms of quality and impact, commanded double or triple value compared to results such as books which undergo peer review and which have been additionally reviewed by the Council.³³ The impact of knowledge was reduced to very particular applicable, marketable results. The recognition of applied results in the humanities and social sciences (i.e. outreach, communication, cooperation with civil society, policy) has been minimal, and with its exclusion of civil society organizations, the Methodology has consistently denied epistemic authority or even capacity to relevant knowledge stakeholders (Stöckelová 2012: 16–26).

Originally, the Methodology assumed that research was a level playing field and that all disciplines and all researchers were equal in their access to high impact factor journals and ability to generate income. To address the biggest distortions, the National Excellence Referential Framework was gradually adopted, which increased slightly points awarded to publications in Czech journals and monographs in selected humanities and

33 The 2009–2015 National Policy set a goal to improve the situation by modifying the system for evaluating R&D results to “*increase pressure on support providers and recipients to significantly increase the number and quality of results of applied research immediately usable for new products, technologies, and services.*” (Vláda České republiky, 2009: 17–18).

social sciences, but the marginalization of these disciplines was still in evidence. Disciplines included in the Framework were philosophy and religion, history, archaeology, anthropology and ethnography, political science, management and administration, legal sciences, linguistics, mass media, arts and architecture, and pedagogy and education. Sociology (a discipline strongly linked to the national context), economics, and psychology were not included, and have been assessed according to the same criteria as the natural and technical sciences. Hence, the Methodology has, since its inception, designed explicit policy geographies focused on specific, particularly Anglo-American, countries and regions.

Additionally, in 2009 the Methodology became the basis for distributing institutional funding within the framework of the 2008 Research, Development, and Innovation Reform (Vláda České republiky 2008). As other research studies found elsewhere (Sauder and Espeland 2009: 78), most administrators and researchers initially ignored the research assessment. The few who were aware of it perceived it as an ever-changing but essentially harmless practice, irrelevant to how they approached their research work. One reason may have been the research community's perceived professional insularity, vehemently claimed after 1989 and built strongly on self-governance and autonomy where peers and peers only are in a position to judge research quality and relevance. Related to this is the belief that peer review functions well and is the best instrument to arbitrate quality (cf. Weingart 2005: 118). It was only very gradually, when the points were to be translated into actual funding during a period of budgetary cuts, that the research community started to voice its concerns, including the recognition that the seemingly objective, quantitative bibliometric measures were imprecise, crude, and unfounded (Linková 2014).³⁴ With the ongoing uncertainty of the

34 In 2013 the Methodology was completely overhauled again. It is now based on a three-pillar system. In the first pillar, points will continue to be allocated by type of publication output, the second pillar involves a panel assessment of selected excellent results, and the third pillar governs applied (non-publication) types of results (with point allocations down compared to the previous Methodology).

research evaluation mechanism, some representatives of higher education institutions have recently shifted their allegiance back to the original metric-based Evaluation Methodology, saying it is a simple and good instrument to distribute the little money there is for the development of research organizations that the Ministry of Education distributes to higher education institutions based on the evaluation.

Over the last decade, the Czech national R&D policy shifted its focus toward the industrial private sector, commercial and economic value of research, global competitiveness, applicability, intellectual property rights, efficiency and performance of research measured through bibliographic indicators, and patenting or other applied results (Linková & Stöckelová 2012; Stöckelová 2012). In terms of research professionals and careers, the emphasis is on human resources for natural and technical sciences, mobility and prioritization of contract research as a form of employment (Felt 2009; Stöckelová 2009; Vláda České republiky 2009b). In this, the Czech policy landscape closely mirrors developments in European research and innovation policy, with its focus on partnerships with the business enterprise sector, links with industry, increases in the percentage of both core institutional and grant funding distributed competitively, internationalization and mobility of research staff, particularly in the early-career stages.

Although the government resolution through which the Methodology was adopted stipulated that the assessment criteria be known in advance, transparent, and subject to review, the Methodology changed on an annual basis from its inception in 2004, thus introducing a high degree of uncertainty into the system. Shore and Wright (1999: 569) note the potential intentionality of such frequent changes and the insecurity they bring, as a precautionary principle lest researchers get wise to the assessment system and learn to game it successfully. With its stress on fast results and immediate application, the Methodology has acted as an acceleration apparatus, with particular epistemic effects for the changing tempo of academic work. It was also an attempt to devise a one-size-fits-all formula. While the Methodology was intended

to appear in policy as “a proper order [which] comes with the illusion that all relations can be specific and that it is possible to gain an all-inclusive overview” (Law & Mol, 2002: 14), it is a classificatory system which has served to divide and rule and sometimes deny and rule.

Competitive funding: An instrument of entrepreneurial steering of research organizations and individual performance

The importance of competitive funding in the organization of Czech research has increased significantly over the years (Lepori, Masso, Jablečka, Šima and Ukrainski 2009).³⁵ If in 2005 institutional funding was CZK 2 billion higher than competitive funding, by 2011 core funding reached only 82 % of competitive funding. In absolute terms it was CZK 2.1 billion lower (Úřad vlády ČR 2012: 51) and the plan was to further

35 In 2011, for the first time the Operational Programmes of the European Structural Funds came to play a major role in funding Czech research when the funding of Czech research from foreign sources jumped by 75 %, with 85 % of the foreign funding coming from Structural Funds (Úřad vlády ČR 2012: 123). Between 2007 and 2011, foreign R&D funding coming to the country quintupled (ibid.: 145). These foreign funds are performed primarily in the higher education sector. Governmental analyses of the R&D sector define as a “big unknown” the portion of the state budget that goes toward the co-financing of the EU Structural Fund projects in the country (Úřad vlády ČR 2012: 51). Estimates are at 16 % of GERD in 2012 (Úřad vlády ČR 2014: 30). The impact of this jump increase in R&D funding from the Structural Funds on future gross domestic R&D expenditures has not been fully assessed. The issue of sustainability of the various types of projects is a major concern, and for this purpose the National Sustainability Programme I and II has been approved. Furthermore, because of the higher GDP in the capital city of Prague, which made Prague ineligible to use the Structural Funds in the previous programming period, only a very limited portion of Structural Funds could have been used by institutes and universities located in Prague, which affected a majority of institutes of the Academy of Sciences and Charles University. The future demands on sustainability may create further cleavages between Prague and other regions although Prague will be able to apply for funding in the current 2014–2020 period. Tellingly, governmental analyses do not contain any estimate of the future impact on R&D funding distribution in the country.

increase the percentage of competitive funding with a policy goal of a 60:40 ratio by 2015 (Vláda České republiky 2009b: 18). The 2009–2015 National Research, Development, and Innovation Policy of the Czech Republic defined a further goal of increasing the share of competitive funding for basic research, and identified as one of the problems that a larger portion of research staff salaries is not covered through competitive grant funding (Vláda České republiky 2009b: 18). The institutional funding at some higher education institutions came to account for only 20 % of total financial resources (Dvořáčková et al. 2014: 139). In the Academy of Sciences institutional funding decreased as a percentage of total expenditures from 63 % in 2007 to 34 % in 2016 (Akademie věd ČR 2017).

At the same time, competition has increasingly become the logic behind the distribution of institutional funding as well. According to the 2000 and 2004–2008 national research and development policies (Vláda České republiky 2000, 2004) institutional funding was intended for “long-term development of research and development building on an integrated concept of activity of the organization in R&D”. It was to be distributed without public competition to ensure “solid, long-term activity of research organizations” (Vláda České republiky 2000). By 2004, the policy provided for “regular and demanding assessment” of all institutions receiving core funding and there were first hints of a focus on application and cooperation with the private sphere. Furthermore, providers were to use assessment results as an “important basis” to define the total core funding (Vláda České republiky 2004: 6). Importantly, though, this assessment was to be performed on a disciplinary basis (Vláda České republiky 2004: 14) and there was no link between the assessment and the application of the Methodology which was being prepared concurrently.

With the 2008 Research, Development, and Innovation Reform, “the purpose” of assessment is defined as “distributing institutional expenditures for research and development among budget chapters” (Vláda České republiky 2009b: 10). The follow-up 2009–2015 National Policy

(Vláda České republiky 2009b: 11) expresses a concern that distribution of institutional funding is “not sufficiently linked to the assessment of research work”. Implicitly, the long-term nature of institutional support spanning four to six years is rejected as too long, and distribution of institutional funding was claimed to be a “claims-based item” “lacking principles of competition for public funds” (Vláda České republiky 2009a: 3). The National Policy stipulates for a methodology for assessing results based on “bibliometric data, patenting activity, and other indexes concerning the use of R&D results” (Vláda České republiky 2009b: 17–18). This goal of increasing the efficiency of public support for R&D is linked—through researchers—to another goal, to “use R&D results in innovation and improve the cooperation of the public and private sector in R&D&I”.

The way to stimulate researchers to “create findings usable in innovation and to cooperate with enterprises”, research institutions receiving core funding are to be motivated by a system for assessing the R&D results, and the Methodology (Vláda České republiky 2009b: 20–21). Here we come full circle in a mechanism aimed to steer public research organizations not only toward competition but towards particular forms of research work, research cooperation, and research results. This is to be achieved through trickle-down and trickle-up effects whereby institutions are to compete for institutional funding based on a mechanism which is to motivate individual researchers to produce specific types of applied results. In her analysis of the introduction of a points-based assessment system in Denmark, Wright (n.d.) identifies a similar goal of finding “a single technical measure” that would operate on the three scales of “the competitive state, the enterprising organization, and the ‘responsibilized’ individual” according to the government’s ideological and political vision.³⁶ The Methodology has had effects: It has invaded the life

36 Needless to say, the formerly dominant professional governmentality regime has not, however, been superseded by the economist-, performance-, and efficiency-oriented governmentality (Bleiklie 1998), and they also co-exist in an uneasy, non-coherent mix.

of research institutions and researchers and, in line with the 2009–2015 National Policy, research institutions have adopted assessment systems that often copy the Methodology. Today, there is a growing recognition of the detrimental effects of the current state of affairs overall, and the updated National R&D&I Policy 2016–2020 claims that institutional funding should form a dominant part of public research and higher education. This has yet to translate into an actual research and development budget.

Transformation of academic research organizations: From dynastic to dynamic labs

While the development has been far from uniform, institutes of the Academy of Sciences in the natural sciences have increasingly changed the ways they are organized that have been analysed in terms of a shift from the dynastic to dynamic lab (Červinková 2010; Linková and Červinková 2013).³⁷ The term *dynastic lab* refers to an arrangement where upward career mobility is minimal, often the labs are larger and researchers pass through the scientific path to the position of independent scientist. Also, often the labs are bigger and researchers pass through the scientific path to the position of “independent scientific worker”. Establishing one’s own group is far more difficult; lab leadership is a matter of replacing the former lab leader after he leaves the institution. This is where “dynastic” comes from: This arrangement reproduces personal as well as cognitive continuity of research, and the lab continues along an outlined direction of doing science far more often than if a researcher established his own lab with his own co-workers in a dynamic system. The position of independent scientists is an important aspect of the dynastic lab.

37 The situation in universities and higher education institutions is different for several reasons, as will be explored in the next chapter. Among the most important reasons are the teaching duties, different types of funding (per student payment), and the accessibility of Structural Funds for higher education institutes (HEIs) outside Prague in the previous programme period.

In contrast, in labs organized on the dynamic principle the lab leader is the only fixed point. Other members of the lab doing research—postdocs, PhD students and MA and BA students—work there for a limited period of time and gradually change. One notable exception is technical staff as they are support in nature and not subject to the dynamics of change that pertain to fellows and researchers. The organizational arrangement of the lab is dynamic in that individual members do not form long-term links to the lab and the lab leader; after the completion of their studies or postdoctoral fellowship they leave. If they stay in science, fresh doctors move to a postdoctoral position at another institution. Postdocs strive to secure another postdoctoral position or, ideally, the position of a junior lab leader. The apex of the academic path and a condition for remaining in academic science is the position of a lab leader and the formation of one's own team consisting of students and postdocs. The position of the independent researcher is slowly disappearing, and those who have stayed in those positions are often seen as remnants of the past. While some of the academic research institutes have adopted rules to force the exit of PhD students and postdocs after the completion of their studies and fellowships, team leaders are forced to leave only if they do not pass research evaluation. In this the Czech system in public research organizations differs from some European countries that have instituted rules governing the exit of researchers in later stages of their careers.

This dynamism in the organization of natural science institutes and research groups at the Academy of Sciences is directly related to changes in research funding. The dynamism of funding necessitates dynamism in groups. The entrepreneurial mode of competitive funding aligns the organization of research work and research institutions. The notion of excellence is tied to a particular organization of research funding, which revolves around competition for grants, competition for short-term fellowships at the postdoctoral level, and competition for teams at the institutional level, often with an institutional budget tied to the performance of teams and individuals.

The introduction of research assessment was originally motivated by an effort to build outstanding, world-class research in the Czech Republic, tied to practices extant at research centres located in the West (the US and Europe). The effects of the competitive assessment, however, have not been linear. The dynamism of competitive funding precipitated a shift in the organization of research involving a shift from the dynastic to dynamic lab. Clearly, the dynastic system would present a different set of problems; since upward mobility was extremely limited, there would be issues of favouritism and nepotism, and competition among team members to become a group leader's protégé can easily be imagined. My concern here lies elsewhere: The dynamism of funding has necessitated dynamism in organization. Increased volumes of funding distributed competitively on the national and international levels reorient the organization of research work and research groups and stall the ability of research institutions to offer long-term prospects to researchers. Whereas the dynastic organization has been made possible by stable, long-term core funding for salaries of research staff in research organizations, the dynamic organization requires a principle on which to base the award of chairs, groups and postdoctoral positions. Research assessment is thus an integral part of this complex change. If funding and resources depend on performance, and performance becomes money, literally, a high degree of uncertainty is introduced into the system. As a result, long-term team stability is not tenable. Fragmented and performance-based funding and the distribution of resources also fragments the organization of research institutes and further fragments the organization of an individual research career into stages with its own particular competitive sources of funding, again distributed through a system of assessment. The introduction of competition in research organizations necessitates a different organizational logic, one whose tempo is tied to the tempo of the assessment, is fragmented, and unstable (Linková 2014).

Hybridity and gendering effects

In this chapter I have charted the major shifts in the organization of Czech research which are predicated on the introduction of new sources of competition into the system. These entail particularly the introduction of a research assessment system, the shift to competitive funding, and distribution of institutional funding on a competitive basis, a related change in the organization of research labs and organizations. This is not to say that these shifts have been linear or clear cut. Elsewhere I chart the different ways in which researchers cope with the demands of research assessment and the ways they navigate non-coherence in the system (Linková 2014). The dynastic system has not evaporated overnight, and in fact the dynamic and dynastic manage to co-exist, mobilized in order to elicit particular behaviours (Linková 2014; Stöckelová 2009). Thus, for some the performance-based dynamic organization holds a promise of breaking old nepotistic ties. After all, research assessment based on a seemingly objective points-based system helps some researchers, not least women researchers with less access to support networks.

In the chapters that follow, individual contributors look into particular issues from a gender perspective. These include excellence and research assessment, possibilities for combining professional and care work, academic mobility, and reasons why people leave academic science. In all these instances, particular sets of obstacles arise for women researchers. Yet clearly, the novel challenges to gender equality in research resulting from the recent shifts do not mean that a return to the dynastic system offers a solution. Even while the dynastic system made career breaks for childcare more manageable, gender inequality was rampant in the research culture, together with lack of transparency and accountability (Linková and Červinková 2013). Thus in the chapters that follow, the particular mix of gendered culture, embodied in family and social policy, and the newly emergent competitive research culture will be explored to address the ways research careers are gendered today, especially for the new generations of researchers in the Czech Republic.

Literature

- Akademie věd České republiky. 2017. *Výroční zpráva o činnosti Akademie věd České republiky za rok 2016*. Prague: Akademie věd České republiky. (http://www.avcr.cz/opencms/export/sites/avcr.cz/content/galerie-souboru/vyrocni-zpravy/Vyrocni_zprava_2016_schvalena_L_AS.pdf).
- Arnold, E., B. Mahieu and A. Horvath. 2011. *International Audit of Research, Development & Innovation in the Czech Republic. Final Report – 2. R&D Governance in the Czech Republic*. Technopolis Group.
- Bleiklie, I. 1998. 'Justifying the Evaluative State: New Public Management ideals in higher education.' *European Journal of Education* 33 (3): 299–316.
- Boden, R., D. Cox and M. Nedeva. 2006. 'The Appliance of Science? New Public Management and Strategic Change.' *Technology Analysis & Strategic Management* 18 (2): 125–141.
- Carney, S. 2009. 'Negotiating Policy in an Age of Globalization: Exploring Educational "Policyscapes" in Denmark, Nepal, and China.' *Comparative Education Review* 53 (1): 63–88, <http://doi.org/10.1086/593152>.
- Červinková, A. 2010. *Growing into Academic Landscape: PhD Students in Molecular Biology*. (A paper presented at the conference "Risky entanglements? Contemporary research cultures imagined and practiced". Vienna, Austria, 9–11 June 2010.
- Dvořáčková, J., P. Pabian, S. Smith, T. Stöckelová, K. Šima and T. Virtová. 2014. *Politika a každodennost na českých vysokých školách: Etnografické pohledy na vzdělávání a výzkum*. Prague: Sociologické nakladatelství (SLON).
- Etzkowitz, H. 2002. *The Triple Helix of University – Industry – Government. Implications for Policy and Evaluation* (No. 11). Stockholm, Sweden.

- Felt, U. 2009. Introduction: 'Knowing and Living in Academic Research.' Pp. 17–39 in *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*. Prague: Institute of Sociology of the Academy of Sciences.
- Gibbons, M., C. Limoges, H. Nowotny, S. Schwartzman, P. Scott and M. Trow. 1994. *The New Production of Knowledge: The Dynamics of Science and Research in Contemporary Societies*. London: SAGE.
- Hellstrom, T. and M. Jacob. 2000. 'Scientification of Politics or Politicization of Science: Traditionalist Science–Policy Discourse and Its Quarrels with Mode 2 Epistemology.' *Social Epistemology* 14 (1): 69–77.
- Hemlin, S. 2006. 'The Shift in Academic Quality Control.' *Science, Technology & Human Values* 31 (2): 173–198, <http://doi.org/10.1177/0162243905283639>.
- Law, J. and A. Mol. 2002. 'Introduction.' Pp. 1–22 in *Complexities: Social Studies of Knowledge Practices*, edited by J. Law and A. Mol. Duke University Press Books.
- Leeuwen, T. van and R. C. Comesana. 2011. *International Audit of Research, Development & Innovation in the Czech Republic Final Report – 8. Bibliometric Analysis of the Czech Republic: Research Output in an International Context 1993–2009*. CWTS Centre for Science and Technology Studies.
- Lepori, B., J. Masso, J. Jabłeczka, K. Šima and K. Ukrainski. 2009. 'Comparing the Organization of Public Research Funding in Central and Eastern European Countries.' *Science and Public Policy* 36 (9): 667–681, <http://doi.org/10.3152/030234209X479494>.
- Linková, M. 2014. 'Unable to Resist: Researchers' Responses to Research Assessment in the Czech Republic.' *Human Affairs* 24 (1): 78–88, <http://doi.org/10.2478/s13374-014-0207-z>.
- Linková, M. 2014. *Disciplining Science: The Impacts of Shifting Governmentality Regimes on Academic Research in the Natural sciences in the Czech Republic*. Charles University in Prague, Faculty of Social Sciences (Dissertation Thesis).

- Linková, M. and A. Červinková. 2013. ‘„Vlastní laboratoř“: akademické trajektorie a gender v současných biovědách.’ *Gender, rovné Příležitosti, výzkum* 14 (1): 15–26.
- Linková, M. and T. Stöckelová. 2012. ‘Public Accountability and the Politicization of Science: The Peculiar Journey of Czech Research Assessment.’ *Science and Public Policy* 39 (5): 618–629, <http://doi.org/10.1093/scipol/scs039>.
- Matonoha, J. 2009. ‘Nejistá půda: Diskurzivní terén českých vědních politik a vědeckého provozu.’ Pp. 149–177 in *Ročenka katedry genderových studií FHS UK v Praze 2007–2008*, edited by B. Knotková-Čapková. Prague: Katedra genderových studií FHS UK Praha.
- Nowotny, H., P. Scott and M. Gibbons. 2001. *Rethinking Science: Knowledge in an Age of Uncertainty*. Cambridge: Polity.
- Provazník, S., A. Filáček, E. Křížová-Frydová, J. Loudín and P. Machleidt. 1998. *Transformace vědy a výzkumu v České republice*. Prague: Filosofia.
- Sauder, M. and W. N. Espeland. 2009. ‘The Discipline of Rankings: Tight Coupling and Organizational Change.’ *American Sociological Review* 74 (1): 63–82, <http://doi.org/10.1177/000312240907400104>.
- Shore, C. and S. Wright. 1997. ‘Policy. A New Field of Anthropology.’ Pp. 3–30 in *Anthropology of Policy*, edited by C. Shore and S. Wright. London, New York: Routledge.
- Shore, C. and S. Wright. 1999. ‘Audit Culture and Anthropology: Neo-Liberalism in British Higher Education.’ *The Journal of the Royal Anthropological Institute* (4): 557–575, <http://doi.org/10.1177/1463499608093815>.
- Slaughter, S. and L. L. Leslie. 2001. ‘Expanding and Elaborating the Concept of Academic Capitalism.’ *Organization* 8 (2): 154–161, <http://doi.org/10.1177/1350508401082003>.
- Stöckelová, T. 2012. ‘Immutable Mobiles Derailed: STS, Geopolitics, and Research Assessment.’ *Science, Technology & Human Values* 37 (2): 286–311, <http://doi.org/10.1177/0162243911415872>.

- Stöckelová, T. 2012. *Nebezpečné známosti. O vztahu sociálních věd a společnosti*. Prague: Sociologické nakladatelství (SLON).
- Stöckelová, T. 2009. 'Politická a morální ekonomie vědy.' Pp. 37–71 in *Akademické poznávání, vykazování a podnikání. Etnografie měnící se české vědy*, edited by T. Stöckelová. Prague: Sociologické nakladatelství (SLON).
- Šima, K. and P. Pabian. 2013. *Ztracený Humboldtův ráj: Ideologie jednoty výzkumu a výuky ve vysokém školství*. Prague: Sociologické nakladatelství (SLON).
- Úřad vlády České republiky. 2015. *Národní politika výzkumu, vývoje a inovací České republiky na léta 2016–2020*. Prague.
- Vláda České republiky. 1994. *Usnesení vlády České republiky ze dne 25. května 1994 č. 282 + P o zásadách vlády pro oblast výzkumu a vývoje*. (http://racek.vlada.cz/usneseni/usneseni_webtest.nsf/0/A42B382F9590FB66C12571B6006E4BE6).
- Vláda České republiky. 1997. *Usnesení vlády České republiky ze dne 23. dubna 1997 č. 247 + P o Zásadách vlády pro oblast výzkumu a vývoje*. (http://racek.vlada.cz/usneseni/usneseni_webtest.nsf/0/A42B382F9590FB66C12571B6006E4BE6).
- Vláda České republiky. 2000. *Národní politika výzkumu a vývoje*.
- Vláda České republiky. 2004. *Národní politika výzkumu a vývoje České republiky na léta 2004–2008*.
- Vláda České republiky. 2008. *Reforma systému výzkumu, vývoje a inovací v ČR. Česká republika*. Retrieved from <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=495405>
- Vláda České republiky. 2009a. *IV. důvodová zpráva*.
- Vláda České republiky. 2009b. *Národní politika výzkumu, vývoje a inovací České republiky na léta 2009–2015*.
- Weingart, P. 2005. 'Impact of Bibliometrics upon the Science System: Inadvertent Consequences?' *Scientometrics* 62 (1): 117–131, <http://doi.org/10.1007/s11192-005-0007-7>.

3. Higher Education Policy Context

Karel Šima, Petr Pabian

Higher education in the Czech Republic has undergone crucial changes since 1989. The initial shift from state centralism to academic autonomy was grounded in the re-invention of the traditional Humboldtian university with strong self-governance mechanisms. In the late 1990s student enrolments started to grow, culminating in the first decade of the new millennium with one of the fastest growth rates in Europe. The impact of this massification brought into question the policy framework that was introduced in 1999 with the new legislation. The diversification of the student population raised the question of study programme and institutional diversity. The excessive rise in accreditation agendas and the crucial role of the accreditation process in institutional staffing strategies motivated the main actors to attempt to reform the quality assurance system. Both problems continue to pose major challenges today.

In this chapter we will first describe the higher education landscape in the Czech Republic regarding institutional capacity as well as student and faculty volume, as well as the position and the role of main actors in the higher education policy arena on an individual, institutional, and system level. After, we will focus on two crucial issues that had significant impacts on academic careers. The expansion of higher education at first opened the possibility for fast career advancement particularly for early-stage academics, while increasing teaching loads. As a result of the recent turn of this trend, however, competition on the academic labour market has intensified. During this expansion, accreditation procedures

have played a crucial role in stabilizing the system, but at the same time it contributed to the unification of academic career paths, leaving aside non-traditional alternatives (e.g. careers with a significant professional component outside academia); by insisting on traditional academic qualifications and research performance it favoured research productivity at the expense of teaching. In our concluding remarks we will sketch the possible outcome of recent or planned changes regarding these two problem areas for academic career paths in the near future.

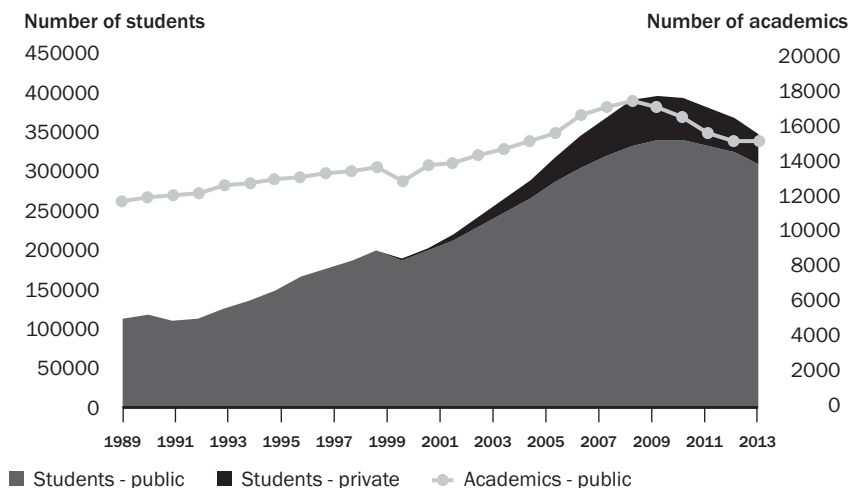
Mapping the higher education landscape after 1989

The higher education landscape changed significantly shortly after the collapse of state socialism and continued to change even more radically during the late 1990s and 2000s (Prudký, Pabian, Šima 2010). While the first wave of reforms after the “Velvet Revolution” (co-organized substantially by student leaders) re-introduced basic academic freedom and self-governance (excluding financial autonomy), since the late 1990s some of the international trends started to show their effects on both capacity and quality assurance mechanisms of the Czech higher education system.

The institutional landscape was restructured most significantly in the 1990s, with the transformation of regional specialized higher education institutions (in chemistry, textiles, engineering, pedagogy, etc.) into universities. Together with the introduction of private higher education in 1998, this institutional structure created good conditions for the rapid expansion of the system into the 2000s. Of public universities, 26—including technical universities, art academies, military and defence universities, and three smaller specialized schools—expanded existing internal structures or established new faculties, and the number of private higher education institutions (mostly non-universities offering mainly Bachelor’s or professional degrees) grew from 0 in 1998 to 46 in 2011. On the other hand, the public non-university sector (including professional vocational schools isolated from the university sector) failed to gain an important role, even if its development was repeatedly an issue in governmental policies on education.

The institutional landscape of higher education has been shaped in the past two decades by the expansion of the public university sector and establishment of the private non-university sector, which resulted in a clear differentiation between these two sectors. In the public university sector the trends towards institutional isomorphism—the tendency to follow the most prestigious organizational model, in this case a classic multidisciplinary comprehensive university (see Powel, DiMaggio 1991)—have been very strong since the 1990s, reinforced by “academic drift” tendencies (i.e. the drift towards norms and structures typical of more prestigious universities; Morphew, Huisman 2002). Figure 1 shows that the number of public higher education institutions has not changed significantly since 1989, but the number of their faculties (as relatively independent sub-units) has almost doubled in the same period.

Figure 1: Number of students in public and private HEIs and number of academics in public HEIs



Source: Ministry of Education, Youth, and Sports—SIMS (Combined Information of Student Registries), Statistical Annual Reports

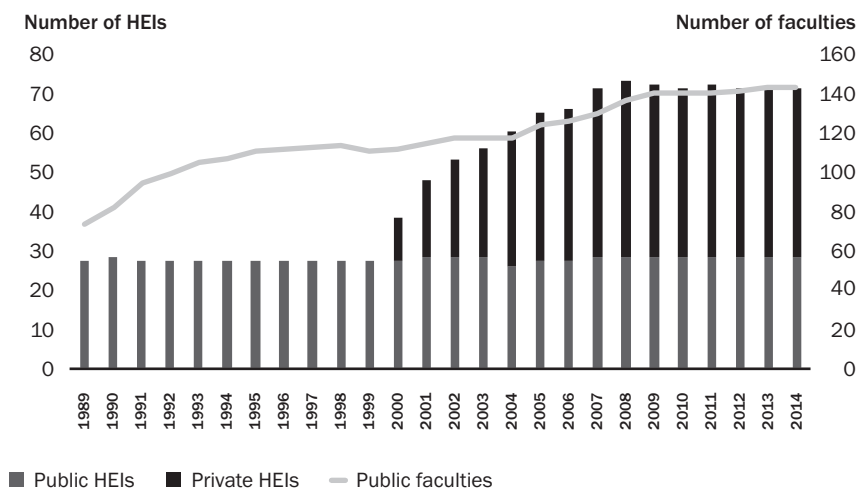
Figure 2 in comparison shows that a relatively high number of private higher education institutions (with mostly non-university professional programmes) comprises only a small fraction of the whole system, and seems to have stabilized in recent years. This picture also illustrates the rapid expansion of the student population in the 2000s, pushed by both public and private sectors. Compared with the relatively slower growth of the number of teachers (in full-time equivalent), this has resulted in a continual increase in the student/teacher ratio in the public sector—from 10 in 1989 to 21 in 2013.

A substantial change in the overall capacity of the higher education system (students, teachers, research, etc.) has resulted in major changes in the characteristics of both students and faculty. According to the Organization for Economic Cooperation and Development (OECD), the net entry rate (in Bachelor's and Master's programmes) increased from 25 % to 60 % in the first decade of the millennium³⁸, which was the fastest growth among OECD countries. Consequently, the student population has considerably diversified in terms of regional, social, economic, and cultural features. On the other hand, this trend created a large demand for teaching assistants and thus widened opportunities for early-stage academics, but also put great pressure on the quick advancement of their careers.

This trend reversed in 2010–2011, with declining numbers of both students and teachers, which was caused largely by a demographic decline with lower numbers of students in relevant age cohorts, and a consequent shift in policy goals. We will analyse these recent trends in one of the following sections.

38 According to the OECD the net entry rate is defined as “the proportion of people of a synthetic age-cohort who enter the tertiary level of education, irrespective of changes in the population sizes and of differences between OECD countries in the typical entry age.” Similar growth probably took place in Slovenia, but there is no comparable data for the first part of the 2000s. See OECD 2014.

Figure 2: Number of public and private HEIs and public faculties



Source: Ministry of Education, Youth, and Sports

For the purpose of mapping the higher education policy arena we will identify main stakeholders (both group and individual, internal and external) and their specific position in the complex network of actors in Czech higher education. Based on Jongbloed, Enders, Salerno (2008) we focus on main actors and their position in terms of power, legitimacy, and urgency: their power to influence the policy process, the perceived appropriateness of their actions within the given normative framework (i.e. their legitimacy), and the urgency of their claims towards the policy (i.e. the degree to which stakeholder claims call for immediate action).

There are traditionally three groups of actors who are expected to have a strong position in each of the three mentioned aspects: students, professors, and administrators. However, their positioning is complex, differentiated, and diverse. The most concentrated power, legitimacy, and urgency for change rests in the hands of rectors who have high authority on the outside of higher education institutions. Internally, their leadership is supported by an advisory collegium of vice-rectors. Their executive roles are implemented by the rector's office with the important traditional

position of bursar and only-recently established managerial position of secretary or chancellor. Their apparatus represents the administrative and expert capacities at the rector's disposal.

However, within the university the rector's power and legitimacy are based on a process of election by a senate composed of teachers and students. This representative body of a broad academic community maintains relatively high authority in financial and strategic matters. The proportion of students in these senates differs among higher education institutions, but ranges between one-third and half of the senate body. In this respect the senate's position in university governance is relatively strong.

High legitimacy as well as power (but a low level of the urgency of their claims, as noted above) is attributed to the scientific board, which consists of senior professors. The scientific board's crucial role regarding academic career paths comes from its substantial role in the process of habilitation and the procedure of gaining a professorship. Both procedures lead to academic qualifications—*docent* which corresponds generally to the US and UK level of associate professor, and *profesor* as an equivalent of full professor, which are not directly related to an academic position. The procedure involves presenting habilitation and professorship academic work, an academic track record and relevant teaching experience. This is evaluated by an ad hoc academic panel and then confirmed by the scientific board, the dean and the rector. This mechanism is heavily dependent on the consensus of members of the scientific board because only minimum criteria are usually set at the institutional level and the decision is made by secret vote after the applicant orally presents a lecture in his/her specific field.³⁹

According to the law on higher education, Czech higher education institutions also establish a board of trustees as a body that should represent external stakeholders of the organization; its authority is based on

³⁹ For further discussion, see the Conclusion.

decision-making power in matters of capital investments (mainly real estate), and in strategic terms has only an advisory role.

Finally, trade unions hold the weakest position among the internal university stakeholders. They also partly represent non-academic administrative staff and they have very limited effect and power due to the decline in their activities since the 1990s.⁴⁰ Their claims are limited to problems of employment contracts and they have very low influence on the careers of academics. In the case of public universities, this internal structure of actors is almost completely mirrored at the level of faculties as sub-units of universities.

Regarding the systemic level, the main actors from the university level are also important players at the national level. Rectors accumulate their position via a representative body called the Czech Rectors' Conference. Academic senates delegate representatives to the national Council of Higher Education Institutions with the student chamber in the Council playing an important role. These two bodies have high legitimacy among both faculty and students, and thanks to that they are crucial arenas of higher education policy negotiations with the government. The Universities Trade Union again plays a minor role.

Power relations between the government and the academic sector have mutually evolved in the two decades following the collapse of state socialism, with both sides hindering major changes that would not be in their own interest. On the one hand, the Ministry of Education, Youth, and Sports is the sole governmental body with decision-making power

40 Trade unions have generally low legitimacy in post-communist societies due to their perceived association with the communist regime (see Ost 2009). In academic institutions union membership has declined significantly since the 1990s and this has had an effect on the decline of workplace strength, as Myant has argued (Myant 2010). Unlike other spheres, such as the primary and secondary levels of education, trade union representation has been almost completely inactive at the national political level. Furthermore, the Humboldtian ideology in the Czech academic environment weakens the employer/employee power axis in favour of a common identity of an academic community (Šima, Pabian 2013).

towards higher education institutions (with the exception of military and police universities that are under the authority of the Ministry of Defence and the Ministry of Interior, respectively); on the other hand, no matter how urgent the Ministry of Education, Youth, and Sports's claim on change is, it is highly dependent on the opinions of academia-representative bodies that are perceived as the crucial legitimizing actors not only within the academic community, but also with society at large. Until the mid-2000s this co-existence was underlined by the fact that all principal officials at the Ministry of Education, Youth, and Sports (in the position of Deputy Minister for Higher Education and Research) were senior professors with experience in academic self-governance. This long-term "cohabitation" was not broken even after the Ministry of Education attempted to carry through a higher education reform with its own political agenda after 2006. Significantly, after resistance from academic representatives, these attempts have ended up in a proposal of mostly minor changes that are still being debated in parliament in 2015. This is illustrative of the fact that the Ministry of Education, Youth, and Sports has never had enough power to push through its own political agenda that would be in conflict with interests of key academic representatives since 1989.

Yet, the network of actors on the governmental level cannot be homogenized in terms of power and legitimacy. While the Ministry of Education department for higher education has always been engaged mainly in administrative and supporting activities, expertise and strategic intelligence has either circled between a limited number of experts and researchers in higher education or been completely lacking.

The essential stake that has been continually negotiated in higher education policy since 1999 is the accreditation process of study programmes that is legally binding for both public and private higher education institutions. The Accreditation Commission of the Ministry of Education is therefore the principal locus of power in Czech higher education. Its position reflects the consensus between academic and state authorities. The Accreditation Commission of the Ministry of Education

is an advisory body consisting of 21 senior professors representing largely disciplinary communities with working groups in 22 fields of education, but its members are appointed by the government of the Czech Republic. Legally the decision-making power is held by the Ministry of Education, Youth, and Sports while the Accreditation Committee is only an advisory body. However, the opinions of the Accreditation Committee are very often presented in media as real decisions and the Ministry of Education, Youth, and Sports does not have any expert competences to oppose them effectively. The Accreditation Commission of the Ministry of Education's quasi-decisions thus evince high legitimacy as well as power because as a consequence higher education institutions are strictly allowed to offer a particular study programme or not. The strong role of the Accreditation Commission is further intensified by the fact that these decisions set strict deadlines and thus carry a high degree of urgency. Among public funding bodies that relate to teachers and higher education institutions, there are a number of stakeholders that are of increasing importance regarding project funding: research funding agencies (Czech Science Foundation, Technology Agency, etc.), agencies for European structural funds (implemented by sectoral ministries), agencies for mobility programmes (e.g. Centre for International Cooperation in Education in cases of ERASMUS and other EU funded programmes), sectoral agencies of government ministries (e.g. Agency for Health Research) and ministries themselves. The visibility of these funding agencies in higher education is very high and their growing prominence is based on the increasing importance of project funding in general. A similar position with less actual power but with higher legitimacy is held by international agencies and programmes such as Horizon 2020, Fulbright Commission programmes, Norway grants, etc.

In 2016 the Accreditation Commission was dissolved and according to new legal provisions the National Accreditation Office for Higher Education was established. This office has a Council that is made up of both academic and non-academic members. This was done as part of a significant re-orientation of Czech evaluation policies in higher

education, which should change the approach from the accreditation of study programmes to the institutional quality assurance.

There is no systematic evidence of cooperation between business enterprises and higher education institutions in educational activities in the Czech Republic. According to financial data of the Ministry of Education the income from economic activities of public higher education institutions reaches only 7 % of the whole budget, but this figure reflects only one particular way of engaging with the business sector. While representative bodies of business and industry are visible players at the national level, little is known about the forms and scope of links between academics and businessmen, and between higher education institutions and companies in education. The Czech Chamber of Commerce and the Confederation of Industry of the Czech Republic are two main players on the national level which promote the interests of large enterprises towards the Ministry of Education and government. In general, the business and higher education links are substantially weaker in educational activities than in research activities and research policy (see M. Linková's Chapter 2).

There are two reasons why the Academy of Sciences⁴¹ is another significant stakeholder in higher education policy. Firstly, there is a great deal of cooperation between individuals and teams from both sides on the project and institutional level (which sometimes overlaps). Secondly, many researchers from the Academy of Sciences teach at universities and many doctoral students work towards their PhD at Academy institutes, but must be formally enrolled at a university because research institutes cannot award any officially recognized diplomas. However, there is still ambiguity between these two actors rooted in the historical division of their missions before 1989 (see M. Linková's Chapter 2).

Based on this description of higher education capacity and the structure of the policy arena, we will go on to analyse the dynamics of two crucial policy problems of post-1989 higher education in the Czech

41 On the role of the Academy of Sciences in the Czech research system, see chapter 2.

Republic. We will show how these structural settings have shaped the policy process in the past two decades and what effects they have had on academic career paths.

Massification of Czech higher education

As the graphs in the previous section show, the Czech higher education system underwent significant expansion during the two decades after the fall of the state socialism. Regarding the number of students, growth peaked in the first years of the new millennium. As mentioned above, the vast majority of these students entered public universities which partly expanded their existing faculties and partly established new faculties in specific fields in the social sciences, life sciences, health care, sport, information technology, etc. This trend put considerable pressure on institutions and academics who had to face a large population of students in the relatively stable and rigid academic organizational environment of public universities. In this section we will describe the policy context of this expansion including the institutional strategies, and then we will focus on the changing expectations of students and the reaction of teachers based on our ethnographic research.⁴² We will examine the impact of rapid massification of Czech higher education on teachers' career paths and development.

The rationale for opening the higher education system had significant impacts on access policies in the early 1990s. The legal framework gave broad autonomy to higher education institutions to set their own admission procedures. However, the access capacity has been dominantly influenced by funding for teaching activities. In 1992 a formula-based system was introduced that had two simple input measures: the number of students enrolled and the normative contribution per field of study

42 This section is based on ethnographic research conducted between 2011 and 2013 by a research team at five departments of five different Czech higher education institutions. For further information see Dvořáčková et al. 2014.

programme (Holda, Čermáková, Urbánek 1994; Turner 1994). The latter was negotiated with the academic community in the early 1990s, while the former has been negotiated annually since then within the Representative Commission consisting of representatives of the Ministry of Education, Czech Rectors' Conference, and The Council of Higher Education Institutions. The proportion of this type of funding in higher education institution budgets has been constantly decreasing since the 1990s, but it still has an important role as it is the only true (besides research funding) institutional type of funding with high autonomy towards allocating funds internally. While in the 1990s this formula funding reached nearly 70 % of higher education institution total budgets, in 2005 it was around 50 % (OECD 2006) and in 2014 the portion was only 33 % according to annual reports on higher education funding by the Ministry of Education, Youth, and Sports. Consequently, this funding stream has been perceived as the most important since the late 1990s and early 2000s.

The simple fact that the input measures are student numbers in respective years⁴³ had an impact on the continual pressure to increase the number of students. This win-win situation meant an increasing budget and expansion for higher education institutions, and a growing capacity of the system that did not reach average enrolment rates in comparison with the OECD and EU countries until the late 2000s. The rationale for widening the access to higher education and meeting the student demand (rather than labour market demands) dominated significantly two decades after the fall of the communist regime and is what resulted in rapid massification. Even if this was the intended goal of the system policy, the consequences were to a large degree unintended and unforeseen, and resulted in strong criticism from teachers and reform attempts from the Ministry of Education.

43 This number is the sum of students who already study in accredited study programmes, and the number of new entrants that is annually negotiated between the representatives of higher education institutions and the Ministry of Education.

The institutional responses to this trend were very much influenced by the form and composition of the policy arena within higher education institutions. As the major part of the expansion took place in the public university sector, the structure of university-type higher education institutions was crucial for negotiating these responses.

First, as Czech universities are unifications of relatively autonomous faculties (Prudký, Pabian, Šima 2010), the position of the rector is highly dependent on consensus between faculties. With the executive level of university not having enough power to bring major changes in institutional policy, most of the main policy instruments are adopted from the national level and adjusted to the interests of the faculties. This is the case of formula funding for teaching, which is implemented on the university level between faculties after allocating some funds to the central administration, but also the case of formula-based research funding that is usually allocated according to the ministerial mechanism between faculties (see M. Linková's Chapter 2).

Second, the policy framework on the faculty level has a similarly strong self-governing structure. The position of the dean, who is elected by the academic senate which was elected by teachers and students, makes him/her very responsive to group interests within the faculty. Even if he or she has decisive power to open or close academic positions and appoint academics, he or she relies heavily on the consensus of the academic faculty community. However, there is a lack of research on this topic and some case studies show that dynamics can be relatively diverse according to the organizational structures of the faculty, traditional networks of prestige, or disciplinary regimes (Stöckelová et al. 2009, Dvořáčková et al 2014).

Based on an ethnographic study of five higher education departments in which we participated, we can summarize different strategies that professors and students developed to deal with these changes (Dvořáčková et al 2014). First, the expansion of student numbers was an important issue for all of the departments. The principal attitude of teachers could be summed up by the motto "more quantity, less quality".

In this respect teachers' assessments of massification is no different from general public opinion (Melichar 2006, Novotný 2010). The argument says that less selective admission procedures bring a "lower quality of students" (Dvořáčková et al. 2014). In our research we observed different strategies of both teachers and students that were ascribed to the massification. Formal lectures were performed before mass anonymous audiences. Exams were based on replicating the teacher's lectures and on questions with one-line answers. Essays were copied and adapted from one student to another. During mass test examinations, students cheated and circulated almost every piece of educational material on their own Web portals. Teachers were frustrated by the lack of students' educational motivation, and students missed teaching that would correspond to their expectations, so they chose living-through strategies.

Nevertheless, it would be too simple to attribute all these problems to the very fact of higher education expansion. We also observed teaching and learning situations that were effective even in mass settings. This was the case of courses that were specifically developed for hundreds of students built on years of experience and a considerable time investment into teaching methods adopted for such student populations. On the contrary, the failures of teaching and learning processes were largely caused by the helplessness of teachers and their inability to pedagogically react to particular situations. While this is a result of the general underestimation of higher education pedagogy in the Czech Republic since 1989 (Šima, Pabian 2013; Dvořáčková et al. 2014), it has to be noted that there are also other reasons that limit teachers' abilities to go beyond formal replicative teaching methods. These attitudes are inscribed in the spatial and technological environment of the teaching and learning process: classrooms that are organized for formal authoritarian lectures, presentation techniques that project lists of facts on screens, and independent student Internet networks that enable sharing and circulating essays, test results, and notes from lectures in almost real-time. All of these types of material semiotics (Law 2008) must be overcome by teachers and students to re-orient the complex teaching and learning environment in

reaction to the massification of higher education. In response to these barriers teachers rather develop their careers in research instead of introducing innovative teaching methods.

To sum up, the rapid expansion of Czech higher education exposed teachers to considerable pressures. On the one hand, the need for teaching capacity opened possibilities for early-stage academics and teachers and practitioners without prior academic records to reach an initial position in academia. At the same time, these professors faced highly diversified and non-traditional student populations, which put them into non-trivial and demanding pedagogical situations for which they were not prepared. High teaching loads together with disappointment from unfulfilled expectations did have mixed impacts on their career strategies. While some of them adjusted their career plans to “outlive the hard times”, others’ frustration led them to the pragmatic re-orientation of their priorities towards the competitive advantage in research performance that has gradually displaced their engagement in teaching activities.

Furthermore, the focus on research performance was not caused only by mechanistic output-oriented research evaluation policies (see M. Linková’s Chapter 2), but also by the rigid mechanisms of habilitation for the associate professor and professor appointment procedures. While the traditional Humboldtian view of academic recruitment was comprised of the very strong decision-making power of the state, Czech post-communist higher education policy combined the Humboldtian ideology with almost complete institutional autonomy in staffing procedures. This is manifested in the fact that academic titles of associate professor and professor are not affiliated with a particular academic position at a university, but rather the academic qualification is achieved by meeting basic requirements (generally defined by law, but mainly by institutions) and gaining the approval of the scientific community of a particular faculty (represented by its Scientific Board). The need for these academic qualifications both for individuals and institutions due to their urgency for accreditation procedures mobilized various institutionally and individually specific strategies to reach them and made them one

of the substantial arenas of academic politics within and between higher education institutions. As a result, engagement in these institutional politics has become a vital part of academics' career plans and strategies.

Quality assurance games in Czech higher education

Since the 1980s, quality assurance policies have had a significant impact on the career paths and development of Czech academics. Since these policies influenced different generations of academics who are simultaneously active in current higher education, we will focus first on the dynamics of quality assurance policy in recent decades and next we will show the main problems that have emerged in recent years and led to efforts to reform the system.

The Czech quality assurance policy went through three very different models: first, detailed state regulation during the communist regime; second, extensive institutional autonomy during the first decade after 1989; and third, tight oversight by an academic oligarchy institutionalized in the Accreditation Commission. In recent years, widespread dissatisfaction with the last model resulted in almost unanimous calls to extend institutional autonomy coupled with reliable accountability. In 2016 an amendment to the Higher Education Act was adopted that significantly changed the quality assurance procedures. The Accreditation Commission was replaced by the National Accreditation Office and its newly established Council, and institutional accreditation was introduced as the key policy instrument for the quality assurance system.

During state socialism, the state administration was intimately involved in the regulation of the educational process and content. Ministry of Education committees (composed of senior academics and professionals) defined the legislation that prescribed detailed curricula that was binding for all degree programmes at all higher education institutions. The prescribed curricula were comprised of a list of obligatory courses, and the assignment of these courses into successive years of study, as well as detailed syllabi for all courses. Individual degree programmes at

higher education institutions were obliged to follow at least 80 % of the courses and at least 80 % of individual syllabi. The Ministry of Education also regulated and oversaw textbooks that were required to follow the relevant course syllabi (Šima and Pabian 2013).

After the end of the communist regime, this detailed regulation of curricula and course content was abolished, together with most of the state governance of higher education. Czech universities, as one of the important seedbeds of the “Velvet Revolution”, were also one of its first targets: already in the first weeks the revolutionary groups (as part of the overall democratization) discarded government directives and established strong representative senates. These post-revolution changes were eventually codified in the 1990 Higher Education Act, which abolished virtually all means of state intervention in institutional affairs, making higher education institutions completely autonomous as well as with regards to the establishment of degree programmes and curriculum design (Pabian 2009). The new governance model was appropriately characterized as “the most extreme case of the reinvention of government [that] could almost be equated with the abolition of government” (De Boer and Goedegebuure 2003: 219).

The regulative pendulum swung back at the end of the 1990s as part of a more general return to etatism in Czech public policy (Inglot 2008: 226). According to the provisions of the 1998 Higher Education Act, higher education institutions had to periodically submit all their degree programmes to the central Accreditation Commission which was to examine not only the infrastructure for teaching and curricula (including the syllabi of all individual courses offered), but foremost the academic qualifications of teachers including their publications and grants. And indeed, from time to time the Commission has denied accreditation because it deemed course syllabi inadequate, the required literature obsolete, or the publication record of a teacher in the scientific field of the programme insufficient. However, on the whole this task has proven too overwhelming: In its first years, the Accreditation Commission had to assess on average 1,000 degree programmes per year, which would

mean at least 30,000 syllabi and thousands of academics' CVs—all to be assessed by only 21 Accreditation Commission members (on recommendation by working groups). Furthermore, all of these members were senior academics who retained their full-time positions in academia and presumably had to wade through this deluge in the evenings and over the weekends (Kohoutek et al. 2006).

In practice, the Accreditation Commission solved this conundrum by assessing degree programmes against a very simple set of criteria focused on teacher qualifications, essentially calculating whether teaching staff in a given programme includes a predefined ratio of academics with advanced research degrees and academic qualifications (PhD, habilitation, professorship). “Insufficient staffing endowment” became the most common reason given by the Accreditation Commission when rejecting an application for the accreditation of a degree programme. Because this requirement carries with it a penalty of closing the degree programme with the accompanying loss of students and funding, it has effectively become (among all other policy instruments) the dominant force shaping institutional and departmental practices (Pabian 2010).

As four of the five departments we studied dealt with the accreditation of their programmes during our ethnographic fieldwork, all of them focused on the qualifications of their academic staff. They addressed questions such as whether someone can realistically achieve the necessary higher qualification by the next round of the accreditation, and if not, where else it would be possible to find teachers with the required qualifications. They found them either in a neighbouring discipline at their own institution, they found them at a different institution and convinced them to switch, or more likely, to straddle both institutions. At none of the departments did teachers relate their concerns with teaching and student learning to the process of accreditation, which is not surprising because teaching and learning as practised in the programmes do not figure in the accreditation process at all (Dvořáčková et al. 2014; Pabian 2015).

The pervasive force of the accreditation staffing requirements has impacted even more on private higher education institutions, because the existence of a given institution can be brought to an end by a single decision of the Accreditation Commission. To start with, the creation of new institutions and new degree programmes necessitates attracting academics from public universities. However, it was highly problematic because of the general shortage of qualified teachers in the Czech Republic, caused by steeply rising student numbers. Moreover, without the right to confer higher academic qualifications (reserved for universities) the new private institutions could not ensure career growth for their teachers who have to seek doctorates, habilitations, and professorships at public universities. This situation certainly favours public universities that offer lower teaching loads, institutional research funding, and more straightforward academic career prospects on the academic labour market. This is further compounded by the fact that the public universities in question are often direct competitors for undergraduate students and research funding. As a result, only three of the 2,478 associate professors appointed between 1999 and 2007 were primarily affiliated with a private higher education institutions (Ministry of Education 2007) and not a single one of the 1,554 professors appointed between 1999 and 2009 was associated with a private higher education institution (Ministry of Education 2009).

The combination of these factors gave rise to the common practice of dual (or even multiple) institutional affiliation: many “traveling professors” retain their position at a public university in addition to accepting a new post at a private institution (Dvořáčková 2013). This practice is criticized and resented by the Accreditation Commission, which has developed and implemented a number of measures to contain and curtail this practice, blissfully ignoring the irony that the Accreditation Commission itself created the situation in the first place. However, this perfectly illustrates how the accreditation process, which was established to ensure quality of education, has in practice emphasized advanced academic qualifications which focus on research performance and thus provided one further incentive to prioritize research over teaching, which is ubiquitous in

Czech higher education thanks to the dominance of the Humboldtian ideology (Šima and Pabian 2013, see also Chapter 8 by Zábrodská et al. in this book).

It is all the more ironic that these unintended outcomes of the accreditation system on academic careers have not been addressed in the government's reform attempts in recent years, and the system has been criticized solely for its ineffectiveness. In an attempt to eliminate the "traveling professors" problem the Accreditation Commission established a registry of associate professors and professors to keep a record of every position of this kind in Czech higher education, so the Commission can take into consideration the number of affiliations a particular individual has. At the same time, new additional criteria for assessing study programmes has been introduced that set the maximum overall workload for academics involved in the teaching of a programme. However, this limit (60 hours per week for the guarantor of the programme, 70 for other teaching staff) should comprise not only work at the university, but also any other employment which leads to the highly controversial practice of monitoring academics' activities outside the university. These new provisions motivated some of the institutions with a high proportion of "traveling professors" to avoid part-time contracts and focus on full-time employment (Dvořáčková et al. 2014). This practice is perceived in some cases as an appropriate consolidation of staffing strategies after the massification period, but in institutions that provide vocationally-oriented programmes it is believed to limit an involvement of experts from relevant professional communities.

To sum up, the accreditation procedures applied from 1999 to 2016 had an ambivalent impact on career paths in Czech higher education. On one hand, they contributed to the focus on academic qualifications with research performance and the approval of the research community as key criteria for career success. This has undervalued teaching activities and teaching competences in career development and had a synergic effect with output-oriented research evaluation policy focused on competition and market-like strategies. However, the crucial role of habilitation and

the professor appointment procedure that is highly dependent on institutional and disciplinary community recognition has motivated career strategies that tend to build on networking and prestige accumulation rather than on academic performance.

Outlook: reversal or adjustment?

Both massification and quality assurance as two crucial problems of Czech higher education have reached a critical point in recent years. Since the late 2000s, the expansion of higher education has been perceived as the urgent challenge by both the Ministry of Education and academia, and further the problem of accreditation procedures has been gradually addressed by all actors. However, the reform attempts to deal with these problems in a complex way and in the long term have not been successful so far.

The first reform wave starting in 2006 had a clear neoliberal agenda in enhancing the autonomy and accountability of higher education institutions and in the introduction of tuition fees (Bílá kniha 2009). After three years of preparing and negotiating the White Paper the government accepted it. Nevertheless shortly after, losing its majority in the parliament the cabinet resigned in 2009 and the reform was withdrawn. The second wave of higher education reforms in 2011–2012 was pushed by a new minister and the right-wing conservative coalition partly took over the agenda of the previous cabinet. Additionally, the new minister brought the accountability of higher education institutions with the goal of limiting the power of academic senates to the fore. The intense negotiations between the minister and representatives of higher education institutions escalated into the largest protests of teachers and students since 1989. Shortly after that the minister resigned and the reform was set aside again. The third wave of reforms started in 2013 with a new round of consultations which resulted in a draft of the amendment to the existing Act on Higher Education dealing mainly with partial problems and proposing a new mechanism for institutional accreditation. This

legislation was adopted in 2016, with its main implementation mechanisms being introduced later that year. In early 2017 the new National Accreditation Office published details of the new system and during the first months of 2017 universities began to adapt to these provisions, but its impact on quality assurance culture is still rather uncertain. To sum up, this shows how teachers have retained their considerable power within higher education policy in the Czech Republic and how they managed to defend their autonomy both in the national and institutional frameworks for academic qualifications and career building.

The long-standing debate on the reform of the accreditation mechanism has come to the relatively widely accepted consensus that the accreditation of study programmes is no longer sustainable. The main argument continued to be the administrative overload of the Accreditation Commission, leaving the deficits of the system regarding teaching and learning quality assurance almost unnoticed. Since the late 2000s a near-consensus has emerged on the concept of institutional accreditation—the periodical assessment of entire institutions which would then be entitled to devise their own degree programmes. This idea was adopted in the new legislation in 2016. Nevertheless, this arrangement will by all means further strengthen institutional autonomy against the Ministry of Education, even if this framework for a new accreditation mechanism is still being negotiated inside universities and between them and the new National Accreditation Office in the process of implementation.

The problem of massification has undergone different dynamics than the policy debate on quality assurance. Largely due to the fact that the policy framework of expansion was not based on legislation but rather on Ministry of Education rules for institutional funding allocation and even more on the annual negotiations of these allocations, the reversal of the trend was in fact put into practice as early as in 2011. With the argument that the appropriate level of net entry rate to higher education is around two-thirds of the synthetic age cohort and based on negative demographic projection, the Ministry of Education agreed with

representatives of higher education institutions on a gradual decrease of the capacity of enrolled students (Dlouhodobý záměr 2005). At the same time, the formula for allocating the lump sum of institutional funding was supplemented by a set of performance indicators that reached the portion of 24 % of the entire funding volume in 2015 (Pravidla 2014). While the details of these “quality” indicators has changed in recent years, the highest weight is still attributed to research output and the international mobility of students. The impact of this shift in the allocation mechanism on institutional strategies is not clear yet, but it is highly questionable that it could bring more attention to the quality of teaching and learning.

Yet these recent plans to reorganize the accreditation procedure seem not to change the main trend since 2010: growing competition for academic positions. Firstly, as a result of reversing student expansion into reduction, the capacity of academic positions has slightly diminished on average, but in some institutions it has decreased drastically. According to Ministry of Education data (Vývojová ročenka 2015) the number of teachers has decreased from its peak in 2009 by 3.5 %, but some regional universities have undergone a drop of 20 % or even 30 %. Secondly, the delayed impact of the expansion and the pressure on academic qualifications motivated by accreditation criteria has generated high numbers of academics with the qualification of associate professor. While the overall number of teachers decreased in five years between 2009 and 2014, the number of associate professors has increased by 1.3 %. Due to the fact that academic qualification is not bound to a particular academic position in the Czech Republic, the growing number of teachers with high academic qualifications causes higher competition. It should be noted that this competition is based primarily on the criteria of research performance, because both accreditation criteria and habilitation criteria are highly dependent on an individual’s research output. Thus, for career development, teaching activities are of no or very limited importance.

Nevertheless, according to partial evidence this trend is starting to have a reversed impact on habilitation practices (Dvořáčková et al. 2014). Since this procedure is based partly on recognition by the institutional

and disciplinary community, it could (case by case) react to the dynamics of recent system changes. There are institutions that have raised the requirements for habilitation, and there are some indications of restrictions on the part of the procedure that is negotiated and approved within the scientific boards of faculties. It follows that the shrinking of the academic labour market and the closing of access to academic qualifications seems to be the major challenges for academic career structures and developments in the near future.

Literature

- Bílá kniha terciárního vzdělávání*. 2009. Prague: MŠMT.
- De Boer, H. and L. Goedegebuure. 2003. 'New Rules of the Game? Reflections on Governance, Management and System Change.' Pp. 207–231 in *Real-time Systems: Reflections on Higher Education in the Czech Republic, Hungary, Poland and Slovenia*, edited by J. File and L. Goedegebuure. Brno: CHEPS and VUTIUM.
- Dlouhodobý záměr vzdělávací a vědecké, výzkumné, vývojové, umělecké a další tvůrčí činnosti pro oblast vysokých škol na období 2006–2010*. 2005. Prague: MŠMT.
- Dvořáčková, J. 2013. 'Tak daleko, tak blízko: k vybraným formám propojení mezi soukromými a veřejnými vysokými školami.' *Aula* 21 (2): 3–19.
- Dvořáčková, J., P. Pabian, S. Smith, T. Stöckelová, K. Šima and T. Virtová. 2014. *Politika a každodennost na českých vysokých školách: Etnografické pohledy na vzdělávání a výzkum*. Prague: Sociologické nakladatelství (SLON).
- Holda, D., Z. Čermáková and V. Urbánek. 1994. 'Changes in the funding of higher education in the Czech Republic.' *European Journal of Education* 29: 75–82.
- Inglot, T. 2008. *Welfare States in East Central Europe, 1919–2004*. Cambridge: Cambridge University Press.

- Jongbloed, B., J. Enders and C. Salerno. 2008. 'Higher education and its communities: Interconnections, interdependencies and a research agenda.' *Higher Education* 56 (3): 303–324.
- Kohoutek, J., M. Sojka, H. Šebková and V. Vinš. 2006. 'Assuring the quality of tertiary education'. Pp. 82–90 in *Tertiary Education in the Czech Republic: Country Background Report for OECD Thematic Review of Tertiary Education*, edited by H. Šebková. Prague: Centre For Higher Education Studies.
- Law, J. 2008. 'Actor-network theory and material semiotics.' Pp. 141–158 in: *The New Blackwell Companion to Social Theory*, edited by B. Turner. Oxford: Blackwell.
- Melichar, M. 2006. 'Reading from the Crystal Ball: Demography and the Future of Czech Higher Education: Findings from Focus Groups.' *Aula Annual Digest* 10: 17–26.
- Ministry of Education 2007. *Docenti jmenovaní od roku 1999*. Prague: Ministerstvo školství, mládeže a tělovýchovy.
- Ministry of Education 2009. *Profesoři jmenovaní od roku 1999*. Prague: Ministerstvo školství, mládeže a tělovýchovy.
- Morphew, Ch. and J. Huisman. 2002. 'Using Institutional Theory to Reframe Research on Academic Drift.' *Higher Education in Europe* 27 (4).
- Myant, M. 2010. 'Trade union influence in the Czech Republic since 1989.' *Sociologický časopis/Czech Sociological Review* 46 (6): 889–911.
- Novotný, P. 2010. 'Kšeft s mrtvými dušemi: k současné situaci na vysokých školách.' *Tvar* 21 (18): 6.
- OECD 2006. *Country Background Report for the Czech Republic: OECD Thematic Review of Tertiary Education*. Prague: Centre for Higher Education Studies. (<http://www.oecd.org/dataoecd/19/18/36443831.pdf>).
- OECD 2014. *Education at a Glance*. Paris: OECD.
- Orr, D., Ch. Gwosc and N. Netz. 2011. *Social and Economic Conditions of Student Life in Europe. Synopsis of indicators. Final report. Eurostudent IV 2008–2011*. Bielefeld: Bertelsmann Verlag.

- Ost, D. 2009. 'The Consequences of Postcommunism. Trade Unions in Eastern Europe's Future.' *East European Politics & Societies* 23 (1): 13–33.
- Pabian, P. 2009. 'Europeanisation of Higher Education Governance in the Post-Communist Context: The Case of the Czech Republic.' Pp. 257–278 in *European Integration and the Governance of Higher Education and Research*, edited by A. Amaral. Dordrecht: Springer.
- Pabian, P. 2010. 'Czech Republic: Research required but not supported.' Pp. 115–134 in *The Research Mission of Higher Education Institutions outside the University Sector: Striving for Differentiation*, edited by S. Kyvik and B. Lepori. Dordrecht: Springer.
- Pabian, P. 2015. 'Why 'cheating' research is wrong: new departures for the study of student copying in higher education.' *Higher Education* 69 (5): 809–821.
- Powell, W.W. and P. J. DiMaggio. (eds.). 1991. *The New Institutionalism in Organizational Analysis*. Chicago: University of Chicago Press.
- Pravidla pro poskytování příspěvku a dotací veřejným vysokým školám Ministerstvem školství, mládeže a tělovýchovy*. 2014. Prague: MŠMT.
- Prudký, L., P. Pabian and K. Šima. 2010. *České vysoké školství: Na cestě od elitního k univerzálnímu vzdělávání 1989–2009*. Prague: Grada.
- Šima, K. and P. Pabian. 2013. *Ztracený Humboldtův ráj: Ideologie jednoty výzkumu a výuky ve vysokém školství*. Prague: Sociologické nakladatelství (SLON).
- Stöckelová, T. (ed.) 2009. *Akademické poznávání, vykazování a podnikání: Etnografie měnící se české vědy*. Prague: Sociologické nakladatelství (SLON).
- Turner, D. A. 1994. 'Formula Funding of Higher Education in the Czech Republic: Creating an Open System.' *Studies in Higher Education* 19 (2): 139–151.
- Vývojová ročenka školství 2005/06–2015/16. Prague: Ministerstvo školství, mládeže a tělovýchovy, (<http://www.msmt.cz/vzdelavani/skolstvi-v-cr/statistika-skolstvi/vyvojova-rocenka-skolstvi-2005-06-2015-16>).

4. The Policy of Inactivity: Doing Gender Blind Science Policy in the Czech Republic 2005–2010

Hana Tenglerová

Science⁴⁴ plays a major role in the fabric of society. Its position is highly normative and authoritative; in the Czech Republic it continues to bestow a great degree of prestige on people who work in the profession (EC 2010; EC 2013), and it is a domain which receives ample financial support compared to most other Central and Eastern European countries (EU 2013). As many studies show, the position of women, and the state of gender equality in Czech science more generally, is not very encouraging (NKC 2017; Linková 2009; Lorenz-Meyer 2009; Červinková 2007, EC 2006a; EC 2009a; EC 2012). General international commitments are in place to combat discrimination (UN 1995), as are recommendations to implement gender mainstreaming (CEC 1996) and recommendations and action plans aiming at gender equality in science (e.g. EC 2006b; EP 2008). Moreover, the Czech government adopted the national action plan *Priorities and Policies of the Government in Promoting the Equality of Men and Women* (ÚV 2005–2010) and *Rules of Procedure of the Government* (ÚV 1998/2009), both urging ministries and the government to perform gender mainstreaming in the drafting and implementation of all its policies, and to assess any and all materials submitted to the government in terms of their impact on equal opportunities for women and men.

44 This chapter is based on a paper that was first published in the *Central European Journal of Public Policy* 8 (1), p. 78–107, 2014. We would like to thank the editor of the *Central European Journal of Public Policy* for her kind permission to reprint the text.

Despite these various commitments, Czech science policy continued to ignore gender equality as an issue between 2005 and 2010. Governmental gender policies, on the other hand, continued to ignore science. Many authors have repeatedly criticized these vital failures (Lorenz-Meyer 2009; Smetáčková and Linková 2004, Smetáčková and Linková 2006; Linková and Tenglerová 2008). The reaction from responsible institutions has been far from adequate.⁴⁵

In this chapter I examine the way in which the issue of gender equality in science is treated and constructed discursively to show the workings of the policy of inactivity in the field of gender equality in science policy. My goal here is to contribute to the study of how an issue is constructed so as to remain irrelevant and largely unimportant as an issue for responsible science (policy) institutions and their representatives and for science policy in general. To do this, I am going to analyse policy documents, transcripts of public debates, speeches and interviews with responsible stakeholders including civil servants, policy makers and politicians responsible for science policy, on the one hand, and gender equality policy, on the other, by using the “what’s the problem” approach developed by Carol Bacchi (2008). I will first introduce the main concepts and starting points of the chapter and summarize the

45 This situation lasted, with a few exceptions (such as some activities of the Ministry of Education, Youth and Sports (MEYS), which, however, were not structural in nature and therefore could not produce any fundamental systemic change), until the years 2013 and 2014, when leftist governments came to power. In 2013 MEYS adopted a document titled *The status of gender equality and a draft medium-term strategic plan for gender equality in the agenda of the Ministry of Education, Youth and Sports* and a year later the government approved *The Governmental Strategy for of Equality of Women and Men in the Czech Republic for 2014–2020*. Both documents contained tasks and goals that were specifically aimed at the field of gender equality in science. At the same time, communication was strengthened between state institutions of research and development and the academic-watchdog unit the National Contact Center – Women and Science (now the National Contact Center for Gender & Science). This promising change, however, did not lead to any major progress or specific outcomes, other than on a few particular matters that fall within the agenda of MEYS yet. For a more detailed overview, see e.g. Linková and Tenglerová (2015).

context of Czech gender equality, science policies and gender equality in science policies. I will go on to analyse the discursive strategies for treating and constructing gender equality in science between 2005 and 2010, as a manifestation and cause of the responsible authorities' policy of inactivity. In the article I identify two fundamental ways of relating to gender equality in science. These include silence and ambiguity which are the result of ignorance, skipping and avoiding the topic, as well as the construction of gender equality as an issue of women in science, within which the low representation of women in decision-making and motherhood are highlighted in particular. I argue that in this way the attention is shifted from science as an institution built on masculine values to women, both as carrying a problematic status and also those primarily responsible for possible changes of the situation. Such a strongly reduced concept of gender equality has a fundamental impact on the maintenance and reproduction of gender inequality in science.

Concepts and Theories

The term policy of inactivity here means “[b]oth conscious and unconscious decisions not to act” (Veselý 2007: 36). According to Veselý, issues are often not recognized as “worthy” of an independent policy. “It is even more frequent, though, that a public institution does not make any effort, or only very tiny, to implement a certain intention, formulated for example in the form of a strategy or a plan, and *de facto* does nothing [...]. The actual *policy* here is thus the policy of inactivity.” (Veselý 2007: 36)

I use the approach developed by Carol Lee Bacchi (2008) who concentrates on the construction of policy problems, their representations and further implications of these constructions. To thematize the unsaid and to problematize what is not considered a problem is an integral part of feminism and the women's movement, which I as the author of the chapter endorse. My position here is engaged; I consider low appreciation of the gender perspective in science policies as a major deficit. Since 2006 I have been working on the project “National Contact

Centre for Women in Science” funded by the Ministry of Education, Youth and Sports which *inter alia* works to shift public opinion towards higher gender sensitivity in the context of science and to initiate debates on possible measures to advance gender equality in science. Following many feminist theorists (for example, Rich 1986; Haraway 1988; Harding 1992; Hill Collins 1995) I start from the fact that there is no objective and neutral position; my perspective is partial (Haraway 1988) and situated within the context of my previous experience (Harding 1992). I will reflect on the possible impact of my position further in the section about data and in the Conclusion.

The constructivist approach moves this chapter into the realm of “knowledge about public policy” rather than the more traditional perspective of “knowledge for public policy” (Vesely 2007: 38). The goal is primarily to provide a critical analysis of how a given policy is formed and what impact it has (Fisher 2003; Mesny 1998), and not to introduce proposals of concrete measures and steps which should be taken in order to achieve some desired state of affairs, which is the traditional notion of public policy studies in the Czech Republic.

Policy studies as “knowledge about public policy” (Vesely 2007: 38) is primarily a domain of post-empiricist methods of policy analysis (Fischer 2003), such as conceptual analysis (e.g., Carstensen and Pedersen 2008), frame analysis (e.g., Verloo and Lombardo 2007) or the analysis of policy problem construction (e.g., Bacchi 2000; Bacchi 2008). In these understandings, policies are seen as one of the environments in which political concepts and problems and their solutions are constructed. Various concepts of problems articulated by various actors compete with one another in an effort to gain political dominance. According to Bacchi (2004; 2008), one of the ways to understand the competition of these discourses is to identify what is (presented as) a problem, and what the (competing) constructions of problems, their starting points and implications are. Such an exploration makes it possible to expose the assumptions on which various representations are built, what effects they have, what other representations actors mobilize in constructing issues, how

they themselves and others are constructed in policies, and what their duties, responsibilities etc. are. Such problematisation also helps to show what remains unaddressed, what aspects of an issue are marginalized, neglected or completely omitted (Bacchi 2000).

Gender and gender equality

The term gender has been used in feminist studies since the 1970s, following the second wave of the feminist movement. As an analytical category, it shows how power relations in society are constructed and maintained (Scott 1986/2006). Like ethnicity or class, gender as a socially constructed and variable category has a significant influence on the position of the individual in society. It projects itself into four levels: cultural symbols (e.g. hierarchical dualisms), normative concepts (legislation, customs), political and social institutions (e.g. the assumption of a male citizen as the standard) and subjective identities of individuals (how people negotiate their gender) (Scott 1986/2006). The basis for the distribution of power in society lies in an assumption that the norms and values traditionally associated with masculinity are more important and more valuable than those that are associated with femininity (Havelková 2007).

The term gender equality then refers to an ideal-typical state where gender does not play a role in the status of women and men. It is no longer a normative concept on which the functioning of society is based. All people have the freedom to develop their personal skills and do so without the limitations defined by strict gender roles. Different behaviours, aspirations and needs are considered equal or equally valuable (Šmausová 2002). Gender equality in science is understood primarily as a change of scientific culture towards removing androcentrism in research (theories, methodologies, issues studied) and embracing diversity by recognizing other than just the traditionally masculine values such as rivalry, outputs, performance, discipline and self-discipline, efficiency, competition (Stöckelová and Linková 2009; Šmausová undated) as

important (e.g. reflection and anticipation of the impact of research on society and the environment, taking into account the quality of life of society, development of knowledge-sharing and mutual cooperation of those who create knowledge). It also entails recognition of the contribution of work that is routine but necessary for the operation of science, and acknowledgment of work carried out by scientists outside the field of science as something that develops the personality but is not excluded from the world of science. Gender equality policy in science then should compensate for historical inequalities which science helped to establish and legitimize and which it reflects and reproduces (Frank Fox 2000; Amâncio 2005), and create an environment open to “alternative formation of science, that is open to diversified modes of exploration and creation of knowledge” (Stöckelová and Linková 2009: 11). Such a science would be more fair and open, would not neglect the experiences and perspectives of those who are excluded and would bring better knowledge and results benefiting the entire society.

Data and its reflection

The analytical material for the study is comprised of official statements of science policy institutions⁴⁶, transcripts of public statements of representatives of these institutions⁴⁷ and available resources such as strategic science policy documents⁴⁸, a qualitative output from a questionnaire survey performed by the National Contact Centre for Women and

46 For example, communication of the National Contact Centre for Women and Science with the Czech Science Foundation, the Academy of Sciences of the Czech Republic, and higher education institutions.

47 For example, a round table with representatives of grant agencies on the occasion of the conference *Trans/formation: Gender, science and society* on 1 Nov 2007, or the debate *A Vision for Czech Science* organized by the *Science Is Alive! Forum* on 22 Feb 2010.

48 For example strategic science policy documents, see: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=608>.

Science in 2008⁴⁹, and lastly transcripts of twenty-four semi-structured interviews carried out between August 2009 and April 2010 within the framework of my Master's thesis.⁵⁰ The selection of interview respondents was guided by the effort to learn about the structure of institutions of Czech science and gender policies and their representatives' attitudes toward gender equality.

I primarily introduced myself as a graduate student of gender studies working on a thesis dealing with gender equality in science and science policy, and then added information about my professional background. My personal goal along with data collection was to establish a connection and, given interest on both sides, initiate further cooperation between these people and/ or institutions and the project I was involved in as well. Some respondents had known me from earlier communication with the National Contact Centre for Women in Science. The interviews were semi-structured and I gave my respondents relatively free rein in dealing with the questions I asked. The reason for this was my attempt not to come across as a person with epistemic authority who was testing her respondents (or as someone who was only instructed), but rather to engage in a dialogue in a pleasant atmosphere and establish contacts for future cooperation. The comfort of my respondents proved to be often quite hard to achieve in the context of thematising gender equality in science. Speaking about gender equality made many of them very uncomfortable and therefore challenged my aims. Balancing the goals of pleasant atmosphere and data collection had, of course, an impact on the

49 Monitoring of the State of Equal Opportunities for Women and Men and Gender Equality in Scientific and Research Organizations in the Czech Republic. The questionnaire primarily consisted of quantitative questions about the percentage of women and men, and measures implemented to advance gender equality, as well as open-ended questions about attitudes toward the issue of gender equality. It is these answers that were included in the analysed material.

50 Tenglerová, H. (2010). *Politiky nečinnosti: problém genderové rovnosti v české vědní politice* [Policy of Inactivity: Issue of Gender Equality in Czech Science Policy]. Master's thesis. Prague: Charles University, Faculty of Social Sciences. Defended on 21 Jun 2010.

range of details I could receive on the issue. However, this relative lack of data, as I will show later, is a vital expression of policy inaction.

Context of the study

Gender equality in science became a policy issue at the European level at the end of the 1990s. In 1999, the Women and Science Unit was established at the Directorate-General for Research and Technological Development of the European Commission, together with an advisory body to the European Commission called the Helsinki Group on Women in Science (Linková 2006). Since 2000, more than thirty analyses and reports have been published on various aspects of gender equality in science and its policies (e.g. EC 2000; EC 2002; EC 2003; EC 2004a; EC 2004b; EC 2005; EC 2006c; EC 2008; EC 2009b). The European Parliament and the Council of Europe released two and three resolutions, respectively, on this issue (EP 2000, 2008; CE 1999, 2001 and 2003), and gender equality became a part of the EU's main tools for funding research in Europe, Framework Programmes (1998–2013), and of the new funding mechanism Horizon 2020. Although the ways in which the gender dimension was included in science policies and was implemented differed and changed in time and although many gender experts are critical of the way it has been done (for details, see e.g. Pollack and Hafner-Burton 2000; Linková 2011; Linková and Červinková 2011; Mergaert and Lombardo 2012; Linková 2013), gender equality in science has been present as an issue at the EU level until today.

The Czech Republic joined the EU on 4 May 2004 within the fifth wave of enlargement. It did not belong to good performers of this wave in terms of gender equality policies (Avdeyeva 2010, 2013). Even on the legislative level there was long hesitation and controversy in the process of adopting the Antidiscrimination Law as the only legally binding aspect of EU's gender equality agenda (Weiner 2010). It was adopted long after the accession to the EU, in 2009, under the threat of EU sanctions (Havelková 2010). While some institutions and a basic strategy of

gender equality were created at the beginning of the new millennium, their effectiveness was very low to minimal (Pavlík et al. 2004, 2006, 2008; Linková and Tenglerová 2013).

During the period of 2005 to 2010, mostly right-wing governments were in power (2006–2009 and 2010–2013). Thanks to their ideological orientation, they were less inclined towards adopting gender equality measures (Avdeyeva 2010, 2013; Weiner 2010). Even previous governments headed by social democrats (1998–2006), however, failed to ensure full implementation of gender equality policies (Avdeyeva 2010; Pavlík et al. 2004, 2006, 2008). The small steps that were taken are considered more as a concession to the European policy of gender equality in the pre-accession period (Jarkovská et al. 2010) or even as a means to an end—namely EU membership (Weiner 2010).

Failures of gender equality policies and their implementation are explained by the often interrelated circumstances such as the absent women's movement (Avdeyeva 2010, 2013; Weiner 2010; Vodrážka 2006), resistance towards feminism (Weiner 2010; Havelková 2007, 1996; Vodrážka 2006), low gender sensitivity (Havelková 2007), biologically-determinist thinking (Weiner 2010) and strong positions of neoliberalism and anticommunism (Weiner 2010; Linková and Tenglerová 2013).

A wide-ranging and active scene of Czech(oslovak) women's activism was destroyed during the time of communism with its restrictions on the freedoms of association and speech (Havelková 2007). According to Hana Havelková and Libora Oates-Indruchová, the communist regime annihilated and expropriated the women's movement by taking its agenda and letting women organize themselves under its wings; it gave them no chance to promote their political aims or to act as a partner in shaping the state's gender policies (Havelková and Oates-Indruchová 2014: 9). After the communists came to power in 1948, feminism as a concept became associated with Western bourgeoisie and imperialism (Osvaldová 2004). The communist regime followed up on pre-war developments in the area of gender equality (Havelková 2007, 2010) and made further

steps especially in the field of women's employment. Many other areas of gender equality, however, remained silenced and unthematized (Havelková 2010; Jedličková 2006).⁵¹

The military intervention of August 1968 again interrupted the gender-relevant debate within the society, partly because its key participants emigrated, partly due to censorship. The subsequent period of Normalisation was characteristic by ideological return to conservative values and reassertion of the petit-bourgeois model and patriarchal discourse. This, according to Havelková and Oates-Indruchová (2014), contributed to “a regression in representing gender differences [...] towards their biologization, as if they arose from the biological difference and so were down to nature” (Havelková and Oates-Indruchová 2014: 15). The communist attempt to equalize men and women was perceived as a violation of the natural gender order (Weiner 2010) and the entire communist regime as something forced from the outside and not representing people's will (Linková and Tenglerová 2013); the same has later been identified in the EU's gender policies and demands. This attitude was, moreover, cemented by strong post-revolutionary neoliberalism which presumed inborn differences among individuals, and perceived interventions such as equal opportunity laws as obstacles to economic freedom and inappropriate interference in the natural order (Weiner 2010). EU's gender equality agenda was trivialized as something that has already been there at the time of communism and that was evident nonsense.

The result of this development is a situation described by Czech sociologist Hana Havelková as “under-developed gender sensitivity. That [...] is, paradoxically, related to the conviction that there is a high degree of gender equality.” (Havelková 2007: 35). These specific circumstances created an unfriendly and resistant environment for most gender equality efforts.

51 Even the dissent failed to thematized the subject.

Constructing gender equality in the context of Czech science policies (2005–2010)

To analyse how the issue of gender equality in science is treated and constructed to produce and reproduce the policy of inactivity, I will now focus on analysing science and gender equality policy documents and statements and the attitudes of representatives of the relevant institutions. I will focus on the strategies through which the issue is avoided and through which gender equality in science is rejected as a problem, the ways gender equality is thematized, if at all, what these strategies mean in terms of gender equality, which solutions are available and which are not, who is considered to be responsible for initiating change, and in what area (e.g., the world of work, citizenship, private individuals) the problem and its solution are (or not) located. I will also discuss which relevant aspects of these representations are missing. I will strive to demonstrate that the ways in which gender equality is most commonly understood and treated at the level of discursive practices significantly impedes its perception as a relevant science policy issue that requires an intervention.

Silence and ambiguity

Legislative and policy strategies and documents on science between 2005 and 2010 were silent about gender equality, as were gender equality policies silent about science. A brief mention of women in science was included in the 2005–2010 National Innovation Policy of the Czech Republic (ÚV 2004/2005a) adopted in January 2004 (Linková 2006; Jarkovská et al. 2010) but it disappeared after the document was updated in June 2005. Furthermore, gender equality failed to be addressed in terms of evaluation of research and development results and discussions about scientific excellence (Lorenz-Meyer 2009). Gender equality issues were absent from all the other national science policy documents between 2005 and 2010, including the Strategy of Economic Growth (ÚV 2005), the National Policy of Research and Innovations (ÚV 2004/2005b), the

National Policy of Research, Development and Innovations (ÚV 2009) and others (ÚV 2005; ÚV 2008a). The Reform of Research, Development and Innovations (ÚV 2008b) adopted in 2008 not only did not pay any attention to gender equality, but according to Jarkovská et al. (2010), it may have even had a negative impact on it. The Reform set out to support areas, scientific results and types of research careers that are characterized by low percentages of women: engineering, the business sector, development, applied research, patents and high mobility. Science, on the other hand, was totally missing among the highlighted areas of the state's gender equality agenda, as represented primarily by the national action plan *Priorities and Policies of the Government in Promoting the Equality of Men and Women* (ÚV 2005–2010). “Research was at best seen as a tool for analysing gender inequalities, not as a field where inequalities are reflected, created and reproduced”, note Smetáčková and Linková (2004, 2006) in their chapter about gender equality in Czech education and science policy of the *Shadow Report on Equal Treatment and Equal Opportunities for Women and Men* (Pavlík et al. 2004, 2006, 2008).

This mutual silence of science policies on gender and gender equality policies on science represents the most fundamental and the most widely used way of treating the issue of gender equality in science. I agree with Matonoha that a silence on gender (equality) is even more pressing than gender oppression because “silence not only fails to support the possibility of extrication from the unequal position, it also primarily conceals the issue and eliminates the necessity and opportunity for reflection” (Matonoha 2014: 165). Such silence can be found in the absence of responses to letters and requests of the National Contact Centre for Women in Science and in the way how the interview respondents reacted. Some of them tried to avoid the interview, many tended to talk about the operation of their institution, its status and its role in the making and development of science policy (representatives of gender equality policies talked about their ability to interfere in its formulation) and were hesitant, cautious and very brief when it came to gender equality in science. They often displayed stress, embarrassment and discomfort and resorted to other

topics. According to Linková and Tenglerová (2013), representatives of the institutional mechanism and officers responsible for gender equality are aware of the fact that there is no gender mainstreaming in place, yet they must maintain loyalty to the state administration. It is therefore challenging to address gender equality policies with the responsible staff without making them feel inadequate. In many cases, however, their embarrassment may have been caused by their gender blindness or lack of information about the issue of gender equality, as I will discuss later.

Situations in which (at least a hint of) gender equality issues can be found were without exception those when the respondents were forced to react to immediately raised questions in interviews I conducted or in public debates, conferences, round tables and replies to official letters by the National Contact Centre for Women and Science. When the silence was broken, those who were willing to talk often recognized gender equality as a formal value in order to manifest a positive attitude and show themselves in a good light as advocates of democracy, or to avoid a concrete formulation of what is actually understood by the term gender equality: “Equal opportunities for all groups of citizens inherently belong to the basic principles of democracy” (UPOL representative, 2007). There is a reference to a value or principle that is legitimate and crucial, and on the other hand, a refusal to talk about gender issues as such (in this statement it would be reduced to equal opportunities for women and men), while other axes of social disadvantage (race, disabilities and so on) are mentioned implicitly. According to such statements, gender equality is a distraction from a more broad and complex case, and it is necessary to look beyond. However, such statements were not followed by further elaboration of the problems and concrete solutions that the institution undertakes in this area. If there was some, the respondents would certainly not hesitate to boast. For this reason, I consider this to be an example of a manoeuvre to avoid the topic of gender equality and not talk about it at all.

Mostly, however, recognition of the value introduces some kind of “but” or resistance: “Gender equality is ensured here sufficiently by the

generally binding legal regulations, especially the Labour Code” (AS CR representative, 2007). Constructing gender equality as a value embodied in the legislation makes it possible to shift attention away from real situations that may indicate that legislation and its enforcement are not sufficient. Gender equality could be of value; however, the respondents regard the present situation as unproblematic.

In terms of the respondents’ concrete notions and locutions, the construction of gender equality was narrowed down to the issue of women in science, which tended to appear along with references to the social order and/or biological givens. In some statements the respondents equated gender and sex. They largely failed to distinguish and address power relations in society. Differences between women and men often appeared in the statements to be natural and therefore unchangeable. Any attempt to change the situation is therefore, in this perspective, meaningless.

This narrowing and blending of links to biology and development of society helps conceal the fact that science is an integral part of society and women belong to science equally obviously as men do. It distracts one from science as a sphere in which gender inequalities are shaped and reproduced.

In this respect, people working in the field of science policy do not differ from Czech senior researchers and heads of labs analysed by Dagmar Lorenz- Meyer (2009). The two most frequent discursive framings which these actors used were the nominal representation of women in science and the link between the issue of women in science and parenthood. While unequal or imbalanced representation of women in various positions is not necessarily perceived as problematic, the situation is usually perceived as problematic in the case of parenthood—framed primarily by the discourse of reproduction or social roles (less, for example, as life fulfilment or an aspect of self-determination) and the discourse of the (scientific) labour market. But solutions are often seen outside of science.

Women in science

Nominal representation of women in decision-making

In the context of gender equality, the respondents usually mentioned a certain level of representation of women in science, especially in the decision-making positions. On the contrary, they relatively rarely talked about the share of women in individual disciplines or career stages. They differed about the specific percentage of women which could be considered to constitute gender equality. For some, it was a higher percentage of women than men; others considered parity to be sufficient; some speakers regarded the share of 20 % to 40 % of women or even the presence of several individual women as adequate. On the other hand, there was relative agreement about the fact that the overall representation of women in science is sufficient.

“In our institution gender equality is not a problem. Although it is limited, there are women in lower leadership positions—director of the Language Centre and her deputy, heads of expert groups, the chairwoman of the trade union, the secretary of the Academic Senate.” (UD representative, 2008)

Selective handling of data was a common strategy when the respondents constructed the issue of women in science as unproblematic. Usually, they mentioned a concrete area where the number of women is higher than that of men, but omitted information about the percentage of women among professors or in decision-making bodies. Another strategy using the nominal representation of women to eliminate the problematic status of the issue was to enumerate several examples (tokens)—as the quote above shows—attesting to women’s presence, while omitting again the information about how many and which other important and powerful positions are occupied by men.

If the speakers perceived the nominal representation of women as low—which does not necessarily mean they considered such a situation to be a problem—they usually justified it by the lack of activity and

performance on the part of women and/or by the historical exclusion of women which will improve on its own. The more-or-less explicit blaming of women for their own inactivity was quite frequent:

“The support of talented and able workers, including women, willing to actively contribute to creative and managerial activities and to creating the best conditions and support for these activities is part of the long-term developmental plan of the University.” (UPOL representative, 2007)

“The University needs capable people in decision-making positions willing to work responsibly regardless of sex, creed or race.” (UD representative, 2008)

If women are not represented in these positions, the reason could be that they lack the talent and ability and are unwilling to contribute actively. Women were often openly described as “poorly emancipated” and “insufficiently active” (interview with a member of the Committee for Science, Parliament of the Czech Republic, 2010), without an interest in “taking on an adequate portion of leadership [...] at an institution” (AS CR representative, 2007) and unwilling “to dedicate themselves to the demanding managerial work in addition to their creative academic activities” (UPOL representative, 2007). Lombardo et al. (2007) describe a similar pattern of blaming women for inactivity in the context of politics. According to these authors, such discourse tends to reproduce traditional gender stereotypes about active men who are the norm and the inactive female citizen who has a problem.

What matters in science, according to the respondents, are primarily results, not “sex”. Talent, abilities, results, responsibility and quality were the most frequently mobilized arguments in relation to the low percentage of women-scientists in decision-making positions. Many feminist authors, however, point out that science prefers masculine traits, values and outputs (Nagl-Docekal 2007; Havelková 2007; Haraway 1988; Harding 1992) and that what is considered to be excellent meets actually more easily the types of results that men are oriented toward (Knights

and Richards 2003; Brink and Benschop 2012; Wajcman 1991; Linková 2009). For example, the definition of a person in decision-making positions omits communication skills, ability to achieve consensus and negotiation and so on. Also, a considerable number of studies show that the work performance of women and men is judged in fundamentally different ways (Marchant, Abhik and Molly 2007; Trix and Psenka 2003) and that women's performance is systematically although unconsciously underestimated, both by women and by men (Wennerås and Wold 1997; Moss-Racusin 2014; Reuben et al. 2014; Krawczyk and Smyk 2014). All these aspects were completely neglected by the speakers when they discussed the issue of gender equality in science.

As another strategy of reasoning, women's underrepresentation in science was attributed to the consequence of historical circumstances and inertia:

"[I]t is necessary to realize that many current statistics are determined by the long-term historical development of our science base which was not favourable to women's equal advancement in the past. This is very accurately reflected in the total statistics about the qualifications structure of researchers at the AS CR but also in the number of awarded medals and other accolades, which are contingent upon long-term or even life-long research." (AS CR representative, 2007)

The belief that the situation was bad in the past, is different today and will soon turn around was very strong among the respondents. Although women are portrayed here more positively than in the previous case, the result of this argumentative strategy is the same: no need to act.

"But as you can see in the number that I gave you, the percentage of women is advancing in some way. I do not find it necessary [...] to help; there is a large difference between the ratio of men and women in the standard grants, that's the category of mid-career and senior researchers. But among the juniors it is approaching one-third on its own, and no one is helping them, no one is stimulating them [...]. Life itself, the young generation itself, the young generation of women,

has found its [...] place on its own and is advancing.” (GA AS CR representative, 2007)

“Yes, it is a problem, or more precisely, it is portrayed as something negative. I am aware that women’s percentage is not satisfactory and does not correspond to women’s intellectual contribution to the work of the AS CR, but it is developing on its own and changing for the better without our intervention.” (AS CR representative, 2007)

Although used very often, the “theory of natural development” is in fact not accurate (NKC 2014). The purpose of these constructions of the “problem” of women’s representation is, however, fulfilled, namely to defend and justify inactivity. Women and history are blamed for the situation; women and especially younger generations of women are responsible for changing it. Although some institutions admitted that individual support and motivation for individual women scientists could be applied, such support is informal in nature. It can be, of course, efficient, but it may also take a purely declaratory form or be so selective that the women who are supported toe the line and reinforce the traditional notions about research organizations and researchers. However, concrete support for the motivations and aspirations of women researchers was very rare.

When the respondents talked about gender equality in terms of the percentage of women in science and especially in decision-making positions, they completely ignored the willingness to involve women, their self-fulfilment, the need for multiple perspectives, greater democratization, or references to equality and diversity as a goal. According to the respondents, women are different from men and they do not fit. The only solution to changing the situation is for women to adopt the traditional pattern of masculine performance.

The respondents’ lack of willingness and merely superficial ability to talk about gender equality was sharply contrasted with their eloquence on the issue of quotas and their ability to present a whole range of arguments why quotas are not appropriate. These rhetorical strategies were

linked with negative connotations and a whole array of disadvantages which accompany quotas or come as their consequence.

The speakers labelled quotas as “forceful” (interview with an employee of the MC, 2009, member of the Committee for Science, CD PCR, 2010), “directive” (member of the Committee for Science, CD PCR, 2010, AS CR representative, 2008), “bureaucratic” (member of the Committee for Science, CD PCR, 2010), “administrative” (AS CR representative, 2008), “formal”, “artificial” and “achieving nothing” (MD employee, 2010), not pleasant for women themselves (UPOL representative, 2007) and possibly discriminating against women (UPOL representative, 2007, member of the Committee for Science, CD PCR, 2010). The speakers repeatedly stated that top-down directives do not work (MD employee, 2010, MC employee, 2009), lead to supporting average results, and are thus undesirable (Council representative). With reference to the communist past, they cast quotas in a bad light and constructed their unacceptability.

Through this exemplary rejection of quotas, other potential activities and political measures which could be adopted in the framework of current science policies were made invisible; letting things take their natural course was made to appear as the most appropriate solution:

“Achieving an optimal state in some questions, such as the representation of women in leadership positions, is a matter of long-term development which, however, [...] despite some fluctuations and flaws, is going on positively, and it would not be wise to try to speed this up through administrative and directive measures.” (AS CR representative, 2008)

The interconnection of the representation of women in science and gender equality is problematic because it suggests that there is a quota which, once reached, may be considered to be a proof that gender equality has been achieved. This is made possible by narrowing the concept of gender equality to the level of individuals, or more precisely, to women. The issue is always defined as the low representation of women, not as the high representation of men. Reducing gender equality to the individual

level shifts attention away from the system, from structural gender inequalities in science and society as a whole. Moreover, statistics only measure the numbers of women and men as one of many manifestations of gender arrangements, a part of a larger whole. Gender here is reduced, static and attached to the body. This suits well the logic in which gender and sex are mixed together and which is characterized by low gender sensitivity (Weiner 2010). The issue is reduced and flattened so that it becomes minor and not necessary to solve.

Women in science as mothers

The second way to construct the issue of women in science concerns motherhood. The respondents perceived parenthood as the only systemic—and at the same time legitimate—thing that prevents women scientists from succeeding. It was associated with women's inability and/or unwillingness to enter leadership positions, their concentration on lower qualification levels or the reason why women do not continue their scientific careers after graduating. In connection with motherhood and science, Lorenz-Meyer talks about “hyper-visibility of childcare duties in the case of women researchers” (2009: 103), as if childfree women researchers (Ramsay and Letherby 2006) did not face other obstacles to advancement and as if women were the only possible caregivers.

The respondents' opinions were based on the assumption that women scientists are mothers dedicated fully to their child/children, whereas science demands the whole person (which implicitly cannot be fulfilled by “a good mother”). Křížková et al. (2009) describe the ideology of motherhood in the Czech Republic as very conservative, particularly in relation to the requirement of mothers' uninterrupted presence with the child and the length of parental leave. Parental leave was extended to three years in the 1990's (Vohlídalová 2013); simultaneously, a mass shutdown of childcare facilities resulted in a fatal lack of places in daycare facilities (Hašková 2008). The emphasis on the fact that science must be done continually and, relatedly, it requires all of one's time implies the

masculine nature of the scientific labour market (Acker 1990; Stöckelová and Linková 2009; Williams and Segal 2003). This, however, does not correspond to the life experience of most women and some men, either.

In the respondents' eyes, being a mother and a scientist automatically meant breaks, lack of time or reduced concentration on work. This was assessed negatively: "By having children, women loose continuity, children take loads of time, and that's always a handicap" (CI representative, 2010). Maternal care and science were constructed as activities which cannot be done well together. And it was automatically assumed in the statements that women will prioritize motherhood. Motherhood was perceived to be a handicap "*ex ante*" as well as "*ex post*": an early-stage woman researcher is a potential mother and she is expected to take a break in the future, which will prevent her from doing good science; women researchers who have already been on parental leave are more visible precisely because of their motherhood and the suspicion that they will want to take a leave of absence.

The respondents' statements implicitly suggested that women are the only parent with caring duties. On the contrary, men scientists were assumed to devote themselves to science only, and were not expected to have responsibilities in other spheres. Caring fathers did not enter the picture. "It is assumed that men are happy having the role of breadwinners and 'weekend daddies'", points out Červinková in her paper entitled *On the Science Path: The Next Stop Parenthood* (2007: 27). Many analyses, however, show that men do consider their careers with regard to family (Červinková and Vohlídalová 2012; Červinková 2013) although they mostly stay in the role of a "helping husband" and primary caregiving is left upon women (Vohlídalová 2013: 108). "Parenting continues to have the female gender and fatherhood is almost invisible and insignificant", claims Lorenz-Meyer (2009: 105) when analysing interviews with Czech researchers in the field of the biosciences. The same can be claimed about statements by speakers in the context of science and gender policy.

Ideas about eliminating the handicap of caring duties are about helping women to overcome the interruptions of their careers and their lagging behind:

“I have great understanding for gender equality and I have always actively supported it. On the other hand, I am persuaded that it is not possible to carry out any active prioritization of women in science; it is only possible to try to compensate for some evident disadvantages caused, for example, logically, by childcare.” (CSF representative, 2007),

“Equal opportunities must be in place, everyone agrees on that, that’s clear. On the other hand, there is the problem of societal reproduction, that’s the misfortune of this society. Who will give birth to children? [...] Generally I do agree, the principles are correct, but we don’t know the solutions. The matter is to create conditions so that [women] could get involved as quickly as possible.” (CI representative, 2010)

These vague statements do not manifest the speakers’ willingness to actually implement any specific measures. Most of the speakers did not even mention the establishment of nurseries, the least controversial measure in the area of gender equality in the Czech Republic. For example, a representative of one of the public funding agencies saw absolutely no room for any activity in this field:

“[I]n my opinion, women have the same conditions as men in the funding agency.—I can say that at least about the Grant Agency of the Academy of Sciences of the Czech Republic. And if we should go back to the issue of motherhood as such and the biological differences in the life cycles of women and men, then it does not belong here, does it? It definitely has nothing to do with the Grant Agency...” (GA AS CR representative, 2007)

Although the topic of motherhood is relatively common in the context of gender equality in science, the respondents showed no willingness or

reason for institutions to take responsibility for changing the environment. They did not blame women; motherhood was constructed as socially desirable, but a handicap in the context of science. The overcoming of that handicap is very hazy for institutions. The emphasis here was placed on women's physical bodies and again the solution was implicitly reserved to women as individuals. The issue of childcare and household duties was located outside the sphere of science, namely in the private sphere, at the level of individual solutions, or in the sphere of childcare services which is seen as an issue for social policy or employers, but not for science policy. Nonetheless, it was kindergartens that the research institutions most often considered for assistance to women researchers (Tenglerová 2007, 2011) between 2005 and 2010.

The policy of inactivity as a strategy to preserve the status quo

In this chapter I examined how science policy makers, politicians and civil servants discursively relate to and construct the issue of gender equality in science as a manifestation of a policy of inactivity. I examined two major strategies: silence and ambiguity on the issue of gender equality at the level of science policies, and reduction of gender equality to the issue of women in science. These strategies lead to, enable and reflect the policy of inactivity which has characterized gender equality in Czech science policy between 2005 and 2010.

By concentrating on the discursive level of “doing” policies of inactivity, and analysing the representation of the issue of gender equality in science, I was able to see the strategies of avoiding gender equality as a topic, which aspects of the issue are omitted and which are not, how it is given an unproblematic status, in what areas solutions are located and in which they are not, who is and who is not held responsible for the situation and what gender equality means. This approach provides a scope for exploring the inactivity and the failure to address gender issues in Czech

science policy and, in fact, makes it possible to ask the question of “how the policy of inactivity or gender blindness in science policy happens”.

Silence is the dominant way of relating to gender equality in the context of science policy in the Czech Republic. In policy documents between 2005 and 2010, silence has a clear monopoly; gender equality is a nonissue. This kind of dominance makes it possible to maintain the unproblematic status of gender equality and not to reflect science as an environment where gender equality is of relevance. The ambiguity in constructing gender equality as a value formally established in laws allows one to recognize the legitimacy of gender equality as an issue but at the same time separate it from real-life conditions, real and persistent inequalities, the existence of which is seldom perceived as problematic. By constructing gender equality as a women’s issue, the complexity of gender equality is significantly reduced. An emphasis is placed on women, their abilities and willingness to adapt to the system which requires a preference for traditionally masculine work performance (Amâncio 2005; Krefling 2003). When a career break occurs, women researchers are expected to return and catch up as quickly as possible, or to give up and not claim the privileges of those who are able to meet these requirements successfully. My respondents constructed women, and not the scientific culture, as problematic. Therefore it appears most appropriate not to do anything, or wait until women’s behaviour changes, until women take initiative themselves. When the respondents pointed out the historical development and implicitly previous discrimination of women, there was a strong belief that everything is okay today. And therefore, again, no activity is needed.

All these strategies push the topic of gender equality (or what remains of it after this reduction) outside science, and hence outside science policy. This constitutes a powerful defence for the status quo. In these statements, science is implicitly constructed as a gender-neutral arena where everyone is measured fairly and squarely, according to their abilities, qualities and results, and where the criteria of excellence are the same for all, so everyone has the same opportunity to meet them. Science

is located outside society, and gender is of no concern to it. Therefore the solution has to lie elsewhere: in women's own activity in the case of their poor representation in decision-making positions, or in the individual level or hazily in the society in the case of motherhood. The maximum concession is to assist mothers in child care at the level of individual institutions. But this falls rather within the remit of science institutions and their employment policies, not science policy. Science policy remains gender-blind. This kind of silence, however, not only reproduces today's gender inequalities and their invisibility, but it deepens them.

The working conditions and demands placed on scientists are based on and met much more easily by those who approximate the ideal-typical model of the traditional masculine individual (predominantly by men). By cultivating this kind of monoculture, science loses other important and interesting types of perspectives, including the gender perspective in research, scientific methods and approaches towards explaining empirical results. This results in incomplete and poor quality scientific outputs (EC 2009c) which often omit significant aspects of the lives, experiences and needs of those who are outside science or are pushed out of it. Is such a science legitimate? The percentage of women in Czech science has continued to stagnate at least for a decade. With only 26.9 % (23.4 % in full-time equivalents) of women among researchers (NKC 2017), the Czech Republic is far below the average in the EU (EC 2015), and according to the latest available data fares the worst in terms of women's representation on scientific boards (EC 2012). It is obvious that no such thing as 'natural development' can result in improvements. The continuous increase of women among students (including doctoral students) and the overall growth in the number of researchers is accompanied by stagnation in some disciplines and decline in the number of women in others such as engineering (NKC 2017). Maintenance and defence of the *status quo* seem to worsen the situation.

It is important to see these constructions of gender equality in science as part of the entire culture of gender blindness and resistance to gender issues in the Czech society. The issue of women in science is moreover

often strategically used by activists themselves (e.g. the National Contact Centre Women in Science) in order to succeed and advance opinion(s) on gender equality and strengthen gender sensitivity, at least in particular cases. This strategy has, on the one hand, reinforced the perception of gender equality in the narrower, reduced sense, and on the other hand proved to be effective in creating space for introducing other topics and aspects related to gender equality in science. My respondents' statements, however, show that much work remains in terms of sensitizing the society, including representatives of the research profession and research policy.

Literature

- Acker, J. 1990. 'Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations.' *Gender & Society* 4 (2): 139–158.
- Amâncio, L. 2005. 'Reflections on Science as a Gendered Endeavour: Changes and Continuities.' *Social Science Information* 44: 65–83.
- Avdeyeva, O. 2010. 'States' Compliance with International Requirements. Gender Equality in EU Enlargement Countries.' *Political Research Quarterly* 63: 203–217.
- Avdeyeva, O. 2013. Gender Equality in the EU Enlargement Countries: From Candidates to Members.' Paper presented at the European Conference for Gender and Politics, March 21–23, 2013, Barcelona, Spain. <http://www.ecpg-barcelona.com/sites/default/files/ECPG2013.pdf> (accessed 05 Apr 2014)
- Bacchi, C. 2000. 'Policy As Discourse: What Does It Mean? Where Does It Get Us?' *Discourse: Studies in the Cultural Politics of Education* 21: 45–57.
- Bacchi, C. 2004. 'Policy and Discourse: Challenging the Construction of Affirmative Action As Preferential Treatment.' *Journal of European Public Policy* 11: 128–146.
- Bacchi, C. 2008. *Women, Policy and Politics: The Construction of Policy Problems*. London: SAGE.

- van den Brink, M. and Y. Benschop. 2012. 'Gender Practices in the Construction of Academic Excellence: Sheep with Five Legs.' *Organization: the Critical Journal of Organization, Theory and Society* 19: 507–524.
- Carstensen, M. and J. Pedersen, 2008. 'Ganging Up on Interests: A Conceptual Approach to Policy Analysis.' Paper presented at *the 4th International Conference on Welfare State Change* at St. Restrup Herregaard, January 30th – February 1st, 2008. Retrieved 05 April 2014 (http://vbn.aau.dk/files/16533452/Ganging_up_on_interests_final.pdf).
- CE. 1999. *Council Resolution on Women and Science* (OJ 1999/C 201/1).
- CE. 2001. *Council Resolution on Science and Society and Women in Science* (OJ 2001/C 199/01).
- CE. 2003. *Council Resolution on Equal Access to and Participation of Women and Men in the Knowledge Society for Growth and Innovation.* (OJ 2003/C 317/03).
- CEC. 1996. *Incorporating Equal Opportunities For Women and Men Into All Community Policies and Activities.* COM(96) 67. Retrieved 05 April 2014 (<http://aei.pitt.edu/3991/1/3991.pdf>).
- Červinková, A. and M. Vohlídalová. 2012. 'Vědci a vědkyně v pohybu: o akademické mobilitě.' [Researchers in Motion: on Academic Mobility.] Pp. 9–35 in *Vědci a vědkyně v pohybu: o akademické mobilitě* [Researchers in Motion: on Academic Mobility.], edited by A. Červinková and Vohlídalová. Prague: Sociologické nakladatelství (SLON).
- Červinková, A. 2007. 'Na vědecké dráze. Příští zastávka rodičovství.' [On the Science Path: The Next Stop Parenthood.]. Pp. 26–35 in *Cesty labyrintem. O vědecké profesi, soukromém životě a jejich propojování* [Paths through the Labyrinth. On the Scientific Profession, Private Life and Their Inter-connections.], edited by K. Šaldová. Prague: Sociologický ústav AV ČR.

- EC. 1999. *Communication of the European Commission on “Women and Science – Mobilising Women to Enrich European Research”* (COM (1999), 76).
- EC. 2000. *Science Policies in the European Union. Promoting Excellence through Mainstreaming Gender Equality. A Report from the ETAN Working group on Women and Science*. European Brussels: European Commission.
- EC. 2002. *National Policies on Women and Science. European Commission*: Brussels: European Commission.
- EC. 2003. *Waste of Talents: Turning Private Struggles into a Public Issue*. Brussels: European Commission.
- EC. 2004a. *Gender and Excellence in the Making*. Brussels: European Commission.
- EC. 2004b. *Europe Needs More Scientists*. Brussels: European Commission.
- EC. 2005. *Women and Science – Excellence and Innovation – Gender Equality in Science*. Brussels: European Commission.
- EC. 2006a. *She Figures 2006. Statistics and Indicators*. Retrieved 05 April 2014 (http://ec.europa.eu/research/science-society/pdf/she_figures_2006_en.pdf).
- EC. 2006b. *Roadmap for Equality between Women and Men (2006–2010)*. Retrieved 05 April 2014 (http://europa.eu/legislation_summaries/employment_and_social_policy/equality_between_men_and_women/c10404_en.htm).
- EC. 2006c. *Women in Science and Technology – The Business Perspective. Report of the Women in Science and Technology Working Group (WiST)*. Brussels: European Commission.
- EC. 2008. *Mapping the Maze: Getting More Women to the Top in Research*. Brussels: European Commission.
- EC. 2009a. *She Figures 2009. Statistics and Indicators on Gender Equality in Science*. Retrieved 05 April 2014 (http://ec.europa.eu/research/science-society/document_library/pdf_06/she_figures_2009_en.pdf).

- EC. 2009b. *The Gender Challenge in Research Funding – Assessing the European National Scenes*. Brussels: European Commission.
- EC. 2009c. Toolkit. Gender in EU-funded Research. Retrieved 12 April 2014 (http://www.yellowwindow.be/genderinresearch/downloads/YW2009_GenderToolKit_Module1.pdf).
- EC. 2010. Science and Technology Report. Special Eurobarometr. Retrieved 12 April 2014 (http://ec.europa.eu/public_opinion/archives/ebs/ebs_340_en.pdf).
- EC. 2012. *She Figures 2012. Gender in Research and Innovation. Statistics and Indicators*. Retrieved 05 April 2014 (http://ec.europa.eu/research/science-society/document_library/pdf_06/she-figures-2012_en.pdf).
- EC. 2013. *Responsible research and Innovation (RRI), Science and Technology. Special Eurobarometr*. Retrieved 05 April 2014 (http://ec.europa.eu/public_opinion/archives/ebs/ebs_401_en.pdf).
- EP. 2000. *Resolution of European Parliament of 3rd February 2000 on Commission's Communication COM (1999) 76 (PE 284.656)*.
- EP. 2008. *Resolution of European Parliament of 21 May 2008 on Women and Science*. Retrieved 05 April 2014 (<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P6-TA-2008-0221+0+DOC+XML+V0//EN>).
- EU. 2013. *Science, Technology and Innovation in Europe*. 2013 Edition. Retrieved 22 April 2014 (<http://ec.europa.eu/eurostat/documents/3930297/5969406/KS-GN-13-001-EN.PDF>).
- Fisher, F. 2003. *Reframing Public Policy. Discursive Politics and Deliberative Practices*. Oxford: Oxford Scholarship Online.
- Frank Fox, M. 2001. 'Women, Science, and Academia: Graduate Education and Careers.' *Gender & Society* 15: 654–666.
- Haraway, D. 1988. 'Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective.' *Feminist studies* 14: 575–599.

- Harding, S. 1992. 'After the Neutrality Ideal: Science, Politics, and "Strong Objectivity".' *Social research: An International Quarterly of the Social Sciences* 59: 567–587.
- Hašková, H. 2008. 'Kam spěje česká společnost v oblasti denní péče o předškolní děti?' [What is the Future of Pre-school Childcare in Czech Society?] Pp. 51–70 in *Práce a péče. Proměny "rodičovské" v České republice a kontext rodinné politiky Evropské unie* [Work and Care: Changes to "Parental Leave" in the Czech Republic and the Family Policy Context in the European Union.], edited by A. Křížková, R. Dudová, H. Hašková, H. Maříková and Z. Uhde. Prague: Sociologické nakladatelství (SLON).
- Havelková, B. 2010. 'The Legal Notion of Gender Equality in the Czech Republic.' *Women's Studies International Forum* 33: 21–29.
- Havelková, H. and L. Oates-Indruchová. 2014. 'Expropriated Voice: Transformations of Gender Culture under State Socialism; Czech Society, 1948–89.' Pp. 3–28 in *The Politics of Gender Culture under State Socialism*, edited by H. Havelková and L. Oates-Indruchová. New York: Routledge.
- Havelková, H. 1996. 'Abstract Citizenship? Women and Power in the Czech Republic.' *Social Politics: International Studies in Gender, State and Society* 3: 243–260.
- Havelková, H. 2007. 'Transformation that Never Started: Women in Czech Science.' Pp. 34–41 in *Re-claiming a Political Voice: Women and Science in Central Europe*, edited by M. Linková, D. Mladeníć, E. H. Oleksy, M. Palasik, E. Papp, M. Piscová and D. Velichová. Prague: Sociologický ústav AV ČR. Retrieved 05 Apr 2014 (<http://www.zenyaveda.cz/files/re-claiming-a-political-voice.pdf>).
- Hill Collins, P. 1995. *Black Feminist Thought: Knowledge, Consciousness, and the Politics of Empowerment*. Boston: Unwin Hyman.
- Jarkovská, L., M. Linková, K. Lišková and T. Stöckelová. 2010. 'Reformní politiky v oblasti školství a výzkumu: současný stav a vyhlídky z hlediska genderových nerovností.' [Reform Policies in Education and Research: Current Status and Prospects in Terms

- of Gender Inequality] Pp. 40–53 in *Krise jako nový začátek, nebo promarněná šance? Genderové aspekty finanční krize* [Crisis as a New Beginning, or a Lost Opportunity: Gender Aspects of the Financial Crisis], edited by L. Sokačová. Prague: Gender Studies, o.p.s.
- Jedličková, P. 2006. 'Nevidět, neslyšet, a nedotýkat se! Feminismus jako součást demokratizačního procesu v ČR v letech 1989–2006 – reflexe médií.' [Not to See, Not to Hear and Not to Touch! Feminism as a Part of the Democratization Process in the CR between 1989 and 2004 – Reflection on the Media] Pp. 103–118 in *Mnohohlasem: vyjednávání ženských prostorů po roce 1989* [Multiple Voices: Negotiating Women's Spaces after 1989], edited by H. Hašková, A. Křížková and M. Linková. Prague: Sociologický ústav AV ČR.
- Knights, D. and W. Richards. 2003. 'Sex Discrimination in UK Academia.' *Gender Work and Organisation* 10: 213–238.
- Krawczyk, M. and M. Smyk. 2014. 'Author's Gender Affects the Rating of Academic Articles: Evidence from an Incentivized, Deception-Free Laboratory Experiment.' *Working Papers of Faculty of Economic Sciences University of Warsaw*, 7. Retrieved 05 April 2014 (http://www.wne.uw.edu.pl/inf/wyd/WP/WNE_WP124.pdf).
- Krefting, A. L. 2003. 'Intertwined Discourses of Merit and Gender: Evidence from Academic Employment in the USA.' *Gender, Work and Organisation* 10: 260–278.
- Křížková, A., R. Dudová, H. Hašková, H. Maříková and Z. Uhde (Eds.). 2008. *Práce a péče. Proměny "rodičovské" v České republice a kontext rodinné politiky Evropské unie*. [Work and Care: Changes to "Parental Leave" in the Czech Republic and the Family Policy Context in the European Union] Prague: Sociologické nakladatelství (SLON).
- Křížková, A., H. Maříková, R. Dudová and Z. Sloboda. 2009. 'The Conditions of Parenthood in Organisations: An International Comparison.' *Sociologický časopis/Czech Sociological Review*, 45: 519–547.

- Linková, M. and A. Červinková. 2011. 'What Matters to Women in Science? Gender, Power and Bureaucracy.' *European Journal of Women's Studies* 18: 215–230.
- Linková, M. 2006. 'Co si neuděláš, to nemáš, aneb ženský aktivismus, produkce znalosti a gender.' [What You Don't Get Done Alone, You Don't Get at All, or Women's] Pp. 143–164 in *Mnობლასემ: vyjednávání ženských prostorů po roce 1989* [Multiple Voices: Negotiating Women's Spaces after 1989], edited by H. Hašková, A. Křížková and M. Linková. Prague: Sociologický ústav AV ČR.
- Linková, M. 2009. 'Věda jako prekérní zaměstnání: genderování výzkumné kariéry v přírodních vědách.' [Science as a Precarious Job: the Gendered Research Careers in Science] Pp. 72–99 in *Akademické poznávání, vykazování a podnikání: Etnografie měnící se české vědy* [Making, Administering and Enterprising Knowledge in the Academy: An Ethnography of Czech Science in Flux], edited by T. Stöckelová. Prague: Sociologické nakladatelství (SLON).
- Linková, M. 2011. 'Genderová rovnost v evropské vědní politice: politická ekonomie strukturální změny.' [Gender Equality in European Science Policy: Political Economy of Structural Change] *Aula: časopis pro vysokoškolskou a vědní politiku* 19: 8–22. (<http://www.csvs.cz/aula/clanky/2011-2-clanky-Linkova.pdf>).
- Linková, M. 2013. 'V pasti dějin: křížovatky feminismu a neoliberalismu v evropské politice genderové rovnosti ve vědě.' [Trapped in History: the Intersection of Feminism and Neoliberalism in the European Policy of Gender Equality in Science] Pp. 148–173 in *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy* [Uncertain Expectations: Changes of the Academic Profession from a Gender Perspective], edited by M. Linková, K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. Prague: Sociologické nakladatelství (SLON).
- Linková, M. and H. Tenglerová. 2013. *Implementation of Gender Mainstreaming in the Czech Republic*. Unpublished study.

- Linková, M. and H. Tenglerová. 2008. 'Gender Equality in Science.' Pp. 104–118 in *Shadow Report on Equal Treatment and Equal Opportunities for Women and Men*, edited by P. Pavlík et al. Retrieved 05 Apr 2014 (<http://www.otevrenaspolecnost.cz/cz/component/phocadownload/category/1-publikace?download=45:stinova-zprava-v-oblasti-rovneho-zachazeni-a-rovných-prilezitosti-zen-a-muzu-2008-eng>).
- Linková, M. and H. Tenglerová. 2015. 'Genderová rovnost ve vědě.' [Gender Equality in Science] Pp. 102–109 in *Stínová zpráva o stavu genderové rovnosti v České republice v roce 2015*, edited by I. Smetáčková. Retrieved 02 March 2017 (http://www.czlobby.cz/sites/default/files/news_download/stinova_zprava_tisk.pdf).
- Lombardo, E., V. Jalušič, M. Pantelidou Maloutas and B. Sauer. 2007. 'Taming the Male Sovereign? Framing Gender Inequality in Politics in the European Union and the Member States.' Pp. 79–108 in *Multiple Meanings of Gender Inequality. A Critical Frame Analysis of Gender Policies in Europe*, edited by M. Verloo. Budapest: CEU Press.
- Lorenz-Meyer, D. 2009. 'Nový pohled na problém „žen ve vědě“: Tři módy genderového jednání v akademickém výzkumu.' [A New Look at the Problem 'Women in Science': Three Modes of Gender Conduct Academic Research] Pp. 72–99 in *Akademické poznávání, vykazování a podnikání: Etnografie měnící se české vědy* [Making, Administering and Enterprising Knowledge in the Academy: An Ethnography of Czech Science in Flux], edited by T. Stöckelová. Prague: Sociologické nakladatelství (SLON).
- Marchant A., B. Abhik and C. Molly. 2007. 'Can the Language of Tenure Criteria Influence Women's Academic Advancement?' *Journal of Women's Health* 16: 998–1003.
- Matonoha, J. 2014. 'Dispositives of Silence: Gender, Feminism and Czech literature between 1948 and 1989.' Pp. 162–188 in *The Politics of Gender Culture under State Socialism*, edited by H. Havelková and L. Oates-Indruchová. New York: Routledge.

- Mergaert, L. and E. Lombardo. 2012. 'Mainstreaming Gender in the European Union: Policy Implementation and Institutional Resistance.' Paper presented on the *Third European Conference on Politics and Gender, Universitat Pompeu Fabra, Barcelona*, 21–23 March 2012. Retrieved 05 April 2014 (http://www.ecpg-barcelona.com/sites/default/files/Resistant%20institutionsMergaertLombardo_ECPG2013.pdf).
- Mesny, A. 1998. 'Sociology for Whom? The Role of Sociology in Reflexive Modernity.' *Canadian Journal of Sociology* 23: 159–178.
- Moss-Racusin, C. A., J. F. Dovidio, V. L. Brescoll, M. J. Grahama and J. Handelsmana. 2012. 'Science Faculty's Subtle Gender Biases Favor Male students.' *Proceedings of National Academy of Sciences of the United States of America* 109: 16474–16479, <http://dx.doi.org/10.1073/pnas.1211286109>.
- Nagl-Docekal, H. 2007. *Feministická filosofie. Výsledky, problémy, perspektivy*. Prague: Sociologické nakladatelství (SLON). (Czech translation of the text *Feministische Philosophie. Ergebnisse, Probleme, Perspektiven*, originally published 2000 and 2004).
- NKC. 2014. *Postavení žen v české vědě. Monitorovací zpráva za rok 2012* [Position of Women in Czech Science. 2012 Monitoring Report]. Prague: Sociologický ústav AV ČR. (<http://www.zenyaveda.cz/files/monitorovaci-zprava2012.pdf>).
- NKC. 2017. *Postavení žen v české vědě. Monitorovací zpráva za rok 2015* [Position of Women in Czech Science. 2015 Monitoring Report]. Prague: Sociologický ústav AV ČR.
- Osvaldová, B. 2004. *Česká média a feminismus* [Czech Media and Feminism]. Prague: Sociologické nakladatelství (SLON).
- Pavlík, P. et al. 2004. *Shadow Report on Equal Treatment and Equal Opportunities for Women and Men*. Retrieved 05 April 2014 (http://feminismus.cz/download/shadow_report/_Report_PDF.pdf).
- Pavlík, P. et al. 2006. *Stínová zpráva o rovných příležitostech žen a mužů*. Retrieved 05 April 2014 (<http://www.otvorenaspolecnost.cz/cz/component/phocadownload/>

- category/1-publikace?download=36:stinova-zprava-v-oblasti-rovneho-zachazeni-a-rovnych-prilezitosti-zen-a-muzu-2006).
- Pavlík, P. et al. 2008. *Shadow Report on Equal Treatment and Equal Opportunities for Women and Men*. Retrieved 05 April 2014 (<http://www.otevrenaspolecnost.cz/cz/component/phocadownload/category/1-publikace?download=45:stinova-zprava-v-oblasti-rovneho-zachazeni-a-rovnych-prilezitosti-zen-a-muzu-2008-eng>).
- Pollack, M. A. and E. Hafner-Burton. 2000. 'Mainstreaming Gender in the European Union.' *Journal of European Public Policy* 7: 432–456.
- Ramsay, K. and G. Letherby. 2006. 'The Experience of Academic Non-Mothers in the Gendered University.' *Gender, Work and Organisation* 13: 25–44.
- Reubena, E., P. Sapienzab and L. Zingalesc. 2014. 'How Stereotypes Impair Women's Careers in Science.' *Proceedings of National Academy of Sciences of the United States of America*. Retrieved 05 April 2014 (<http://www.pnas.org/content/early/2014/03/05/1314788111.abstract.html?etoc>).
- Rich, A. 1986. 'Notes Toward a Politics of Location.' Pp. 210–232 in *Blood, Bread and Poetry: Selected Prose 1979–1985*, edited by A. Rich. New York: Norton.
- Scott, J. 1986/2006. 'Gender – a Useful Category of Historical Analysis.' Pp. 133–148 in *The Feminist History Reader*, edited by S. Morgan. London and New York: Routledge.
- Šmausová, G. 2002. 'Proti tvrdošijné představě o ontické povaze gender a pohlaví.' [Against a Relentless Conviction of Belief in an Ontic Existence of Gender and Sex] *Sociální studia* 5: 15–27.
- Šmausová, G. non-dated. *Genderové stereotypy a sociální kontrola*. [Gender Stereotypes and Social Control] Retrieved on 05 Apr 2014 (<http://www.adiktologie.cz/download/1177/Smausova-Genderove-Stereotypy-a-Socialni-Kontrola.pdf?acc=enb>).
- Smetáčková, I. and M. Linková. 2004. 'Equality of Women and Men in the Ministry of Education, Youth and Sports, Including Research and Development.' Pp. 79–97 in *Shadow Report on Equal Treatment*

- and Equal Opportunities for Women and Men*, edited by P. Pavlík et al. Retrieved by 05 Apr 2014 (http://feminismus.cz/download/shadow_report/_Report_PDF.pdf).
- Smetáčková, I. and M. Linková. 2006. 'Rovnost žen a mužů v rezortu MŠMT, včetně problematiky vědy a výzkumu.' [Equality of Women and Men in the Ministry of Education, Youth and Sports, including Research and Development] Pp. 97–109 in *Stínová zpráva v oblasti rovného zacházení a rovných příležitostí žen a mužů, 2006* [Shadow Report on Equal Treatment and Equal Opportunities for Women and Men], edited by P. Pavlík et al. Retrieved by 05 Apr 2014 (<http://www.otevrenaspolecnost.cz/cz/component/phocadownload/category/1-publikace?download=36:stinova-zprava-v-oblasti-rovneho-zachazeni-a-rovnych-prilezitosti-zen-a-muzu-2006>).
- Stöckelová, T. and M. Linková. 2009. 'Úvodem: Problematizace vědy a genderu.' [Introduction to the Research: Problematising Science and Gender] Pp. 12–36 in *Akademické poznávání, vykazování a podnikání: Etnografie měnící se české vědy* [Making, Administering and Enterprising Knowledge in the Academy: An Ethnography of Czech Science in Flux], edited by T. Stöckelová. Prague: Sociologické nakladatelství (SLON).
- Tenglerová, H. 2007. 'Equal Opportunities of Women and Men in Czech Science and Research.' Pp. 58–65 in *Re-claiming a Political Voice: Women and Science in Central Europe*, edited by M. Linková, D. Mladeníć, E. H. Oleksy, M. Palasik, E. Papp, M. Piscová and D. Velichová. Prague: Sociologický ústav AV ČR. Retrieved by 05 Apr 2014 (<http://www.zenyaveda.cz/files/re-claiming-a-political-voice.pdf>).
- Tenglerová, H. 2011. *Postavení žen v české vědě a aktivity na jejich podporu. Monitorovací zpráva za rok 2010*. [Position of Women in Czech Science. 2010 Monitoring Report] Prague: Sociologický ústav AV ČR. Retrieved 22 Jun 2014 (<http://www.zenyaveda.cz/files/monitorovaci-zprava-2010.pdf>).

- Trix, F. and C. Psenka. 2003. 'Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty.' *Discourse and Society* 14: 191–220.
- UN. 1995. *Action for Equality, Development and Peace. Platform for Action*. Retrieved 05 Apr 2014 (<http://www.un.org/womenwatch/daw/beijing/platform/>).
- ÚV. 1998/2009. *Jednací řád vlády*. [The Rules of Procedure of the Government] Retrieved 05 Apr 2014 (<http://www.vlada.cz/cz/jednani-vlady/jednaci-rad-vlady/jednaci-rad-vlady-26527/>).
- ÚV. 2004/2005a. *Národní inovační politika ČR na léta 2005–2010*. [2005–2010 National Innovation Policy of the Czech Republic] Retrieved 05 Apr 2014 (<http://www.vyzkum.cz/storage/att/D585A235FD706523B2F40970946EC49B/NIP-%20851.pdf>).
- ÚV. 2004/2005b. *Národní politika výzkumu, vývoje a inovací 2004–2008*. [National Policy of Research, Development and Innovations] Retrieved 05 Apr 2014 (<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=5580>).
- ÚV. 2005–2010. *Priority a postupy vlády při prosazování rovných příležitostí žen a mužů*. [Priorities and Policies of the Government in Promoting Equal Opportunities for Women and Men] Retrieved 17 Aug 2017 (<https://www.vlada.cz/cz/ppov/rovne-prilezitosti-zen-a-muzu/dokumenty/souhrnne-zpravy-o-plneni-priorit-a-postupu-vlady-pri-prosazovani-rovných-prilezitosti-zen-a-muzu-za-roky-1998---2013-123732/>).
- ÚV. 2005. *Strategie hospodářského růstu*. [Strategy of Economic Growth] Retrieved 05 Apr 2014 (<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=13633&ad=1&attid=13719>).
- ÚV. 2008a. *Priority aplikovaného výzkumu, vývoje a inovací na léta 2009–2011*. [Priorities for Applied Research, Development and Innovation for the Years 2009–2011] Retrieved 17 Apr 2014 (<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=532844>).
- ÚV. 2008b. *Reforma výzkumu, vývoje a inovací* [The Reform of Research, Development and Innovations] Retrieved 17 Apr 2014

(<http://www.vyzkum.cz/storage/att/987440D1EC4ABC82D726B0288FAFC465/III%20reforma%20syst%C3%A9mu%20VaVaI%20v%20%C4%8CR.pdf>).

ÚV. 2009. *Národní politika výzkumu, vývoje a inovací na léta 2009–2015*. [2009–2015 National Policy of Research, Development and Innovations] Retrieved 17 Apr 2014 (http://www.vyzkum.cz/storage/att/316EDE80438A49F64BF884897F06F6C1/Narodni%20politika%20vyzkumu%20vyvoje%20a%20inovaci%20CR%20na%20leta%202009_2015.pdf).

Verloo, M. and M. Lombardo. 2007. 'Contested Gender Equality and Policy Variety in Europe. Introducing a Critical Frame Analysis Approach.' Pp. 21–49 in *Multiple Meanings of Gender Inequality. A Critical Frame Analysis of Gender Policies in Europe*, edited by M. Verloo. Budapest: CEU Press.

Veselý, A. 2007. 'Veřejná politika.' [Public Policy] Pp. 13–41 in *Analýza a tvorba veřejných politik: přístupy, metody a praxe* [Analysis and Design of Public Policies – Approaches, Methods and Practice], edited by A. Veselý and M. Nekola. Prague: Sociologické nakladatelství (SLON).

Vodrážka, M. 2006. 'Aktivismus bez hnutí nebo protohnutí? Ženské organizace a skupiny v ČR v letech 1989–2006.' [Activism without a Movement or Protomovement? Women's Organizations and Groups in the CR between 1989 and 2006] Pp. 61–80 in *Mnohohlasem: vyjednávání ženských prostorů po roce 1989* [Multiple Voices: Negotiating Women's Spaces after 1989], edited by H. Hašková, A. Křížková and M. Linková. Prague: Sociologický ústav AV ČR.

Vohlídalová, M. 2013. 'Vědkyně mezi dvěma mlýnskými kameny: o podmínkách kombinace pracovního života a rodičovství ve vědecké profesi.' [Women Scientist between Two Millstones: the Combination of the Working Life and Parenthood in the Scientific Profession] Pp. 99–126 In M. Linková, K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy* [Uncertain Expectations:

- Changes of the Academic Profession from a Gender Perspective] Prague: Sociologické nakladatelství (SLON).
- Wajcman, J. 1991. 'Patriarchy, Technology and Conceptions of Skill.' *Work and Occupations* 18: 29–45.
- Weiner, E. 2010. 'Morality, Biology and the Free Market: (De) Naturalizing the EU's Gender Equality Agenda in the Czech Republic.' *Women's Studies International Forum* 33: 13–20.
- Wennerås C. and A. Wold. 1997. 'Nepotism and Sexism in Peer Review.' *Nature* 387: 341–343.
- Williams, J. and N. Segal. 2003. 'Beyond the Maternal Wall: Relief for Family Caregivers Who Are Discriminated Against on the Job.' *Harvard Women's Law Journal* 26: 77–162.

Sources of data for analysis

- Debate "Vision for Czech Science" organized by the Science Is Alive! Forum on 22 Feb 2010.
- Questionnaire survey "Monitoring the state of equal opportunities for women and men and gender equality in science and research organizations in the Czech Republic".
- Communication of the NKC with the CSF, AS CR and higher education institutions 2005–2010.
- Round table with representatives of grant agencies organised on the occasion of the conference Trans/formation: Gender, science and society on 1 Nov 2007.
- Interviews with employees of the Ministries of Industry and Trade, Culture, Agriculture, Defence, Interior, Environment, and Healthcare, with employees of the Office of the Government, representatives of trade unions for science and higher education, working groups for science of the Senate of Parliament of the Czech Republic and the Chamber of Deputies of the Parliament of the Czech Republic, representatives of the CHEI, the AS CR, and the CI.

Strategic documents of science policy of the Czech Republic (see: <http://www.vyzkum.cz/FrontClanek.aspx?idsekce=608>) (Retrieved 29 Jun 2014).

List of abbreviations

AS CR Academy of Sciences of the Czech Republic

CSF Czech Science Foundation

GA AS CR Grant Agency of the Academy of Sciences of the Czech Republic

MC Ministry of Culture

MD Ministry of Defence

CD PCR Chamber of Deputies of the Parliament of the CR

UPOL Palacký University in Olomouc

5. Excellence and Its Others: Gendered Notions of What it Takes to Succeed in Science

Marcela Linková

A crucial element in the organization of the research profession is what constitutes scientific quality or, in more recent parlance, who and what gets recognized as excellent. Merit in science is linked with imaginaries of fairness and objectivity. The traditional assumption is that what matters in science is quality, not gender, race and ethnicity, socio-economic status, class, or geopolitical location.⁵² On the one hand, excellence may appear to be uncontested and self-evident: experts in their field recognize it when they see it (Lamont 2009). On the other hand, it is elusive and highly context-dependent (Felt and Stöckelová 2009), with criteria and selection logics tailored to achieve a fit the organization needs at a given moment (van den Brink and Benschop 2011). Since gender is part of social organizing, it affects the culture, institutions, and practices of science, including the definition and assessment of scientific merit.

In this chapter I focus on the natural sciences and how merit, excellence, and gender play out in this highly competitive field that has driven reforms of research and development in the Czech Republic and beyond. I choose the natural sciences for several reasons: Firstly, natural scientists at the Academy of Sciences played a pivotal role in introducing research assessment at the national level (see Linková's Chapter 2 and Linková and Stöckelová 2012), and the practices of the natural sciences

52 A highly influential examination of how gender bias is compounded by racial and class bias is Gutiérrez y Muhs, Niemann, González and Harris (2012).

continue to sway the way research is assessed in the country. Secondly, the natural sciences have set the tone for organizational changes in Czech academia, also discussed in Linková's Chapter 2, embodied in the shift from the dynastic to the dynamic lab, with elements of strong competition, and stress on mobility and performance indexes. Garforth and Stöckelová (2012) assert that the natural sciences and the related organization of labs form the heartlands of research assessment both in the UK and in the Czech Republic (Garforth 2012; Stöckelová 2012). If the Methodology for Evaluating the Results of Research and Development reflected the practices of the natural sciences, it is of relevance to examine what is valued in the natural sciences and with what gendered effects.

In terms of statistical makeup, of the total population of researchers in the country natural scientists account for 28.8 %, and their numbers have increased by 96.3 % since 2001. In 2015 women accounted only for 25.8 % in a population of 16,376 natural scientists, but the proportion of women among Master's students in 2015 was 41.7 % and among doctoral students it was 45.7 %. The gap closed the most among PhD graduates, where women accounted for 42.2 % in 2015, up from 37.1 % in 2005. The biggest drop in the percentage of women making the transition to an academic career out of all disciplines is in the natural sciences: in 2015 the gap was 15.4 percentage points, up from 11.3 percentage points in 2005 (Národní kontaktní centrum – gender a věda 2017). Clearly, then, women are receiving an education in the field, but this is not reflected in the research profession. Examining the value judgements and institutional arrangements related to assessing merit may shed light on the reasons why women are not thriving in the natural sciences in the Czech Republic.

In this chapter I want to contribute to the existing scholarship on gender and excellence. Building on research studies I performed in natural science institutions, I will examine perceived barriers to women's excellence on the symbolic and institutional levels. Clearly, these levels are not separate, but rather co-constitute powerful gendered scripts and create

major obstacles along the academic hurdle race. On the symbolic level, I will examine how the research profession is envisioned and research excellence defined, and which aspects of perceived women's characteristics and biographies are seen to be in contradiction with dominant definitions of excellence. On the institutional level, I will look into how these normative scripts are written into institutional rules and practices in research funding and performing institutions, including grant competitions and rules governing career steps in the natural sciences. With Louise Morley, my concern in this chapter is to see whether "quality assurance procedures are producing new systems of power and reinforcing gendered power relations in the academy" (Morley 2003: ix).

The results presented in this study are based on my long-term interest in issues of governance, research assessment, and gender. The data come primarily from two research studies performed at two natural science institutes of the Academy of Sciences and additional interviews carried out with research managers and policy makers.⁵³ The two institutes I studied are regarded as excellent in the Czech research landscape. Arguably, the situation in the Academy of Sciences is different from universities that perform the dual role of teaching and research (see Chapter 3 by Šima and Pabian, and Chapter 8 by Zábrowská et al.). Research assessment systems have taken a strong root in institutes of the Academy of Sciences (and not only in the natural sciences), whereas the situation at universities varies even faculty to faculty within a single university. Because the institutes of the Academy of Sciences can be more easily interpolated by the logic of competition (Linková 2014), they offer a particularly suited ground for examining the gendered impacts of the recent shifts to the competitive organization of research, described in the introductory chapter.

53 Due to anonymization issues and a confidentiality agreement with one of the institutions I do not provide detailed specification of the projects as it would identify the institutions. Two of the projects were conducted under the EU's 6th Framework Programme, one under the 7th Framework Programme, and one was funded by the Grant Agency of the Academy of Sciences of the Czech Republic.

Gender bias in assessing performance and excellence

For gender and feminist scholars, the issue of attributing merit and evaluation has long been a topic of critical interest. Van den Brink and Benschop (2011) argue that, “[A]cademic excellence is an evasive social construct that is inherently gendered (...) resulting in disadvantages for women and privileges for men that accumulate to produce substantial inequalities in the construction of excellence.” (p. 1) In the natural sciences, “[M]asculinity and power are intertwined in such a way that men represent the standard; they naturally represent the norm against which the performance of women is measured. In other words, the attributes stereotypically labelled as masculine ... are valued more highly and taken to be the natural norm.” (van den Brink and Benschop 2012: 10).

With their pivotal study of the Swedish Medical Research Council postdoctoral grants, Wenneras & Wold (1997) demonstrated that women needed to publish significantly more than men in the most prestigious journals in order to be evaluated equally (for similar results in the Dutch system see Benschop and Brouns 2003). Over the years, research has unequivocally shown that the work of men is consistently judged as superior, both by men and women, even when the only thing that differs is the name (Reuben, Sapienza and Zingales 2014; Steinpreis, Anders and Ritzke 1999). US research suggests that both men and women view female applicants, with identical qualifications as male applicants, as being less capable and deserving a lower salary (Moss-Racusin, Dovidio, Brescoll, Graham and Handelsman 2012). Further research shows that expressions used to evaluate women and men researchers differ, for example, in tenure awards, with men described as analytical, competitive, independent and individualistic, as leaders and risk takers, and women as understanding, sensitive, and submissive (Marchant, Bhattacharya and Carnes 2007). Similarly, letters of recommendation for women tend to be shorter, contain more doubts, and more frequently refer to the women’s personal situations, whereas letters for men more frequently emphasize their research and publications (Trix and Psenka 2003).

Women's professional advancement is also affected by the perceived role incongruity between femininity and leadership (Eagly and Karau 2002; Heilman and Eagly 2008; Heilman, Wallen, Fuchs and Tamkins 2004; Heilman 2001; Morley 2013). But even when women adopt behaviours typically associated with men and seen as crucial for success in a given domain, they are penalized:⁵⁴ they are perceived as being bossy, too assertive, competitive, and aggressive, in short, not likeable (Valian 1999; Williams 2005).

These differentials arise from gender stereotypes and implicit bias. Research demonstrates that gender differences in attribution of merit and competence may stem from persistent stereotypes that portray women as less competent, but emphasize their warmth and likeability compared with men (Moss-Racusin et al. 2012: 16474; van den Brink and Benschop 2011). This is compounded by additional gender bias related to mothers—the “maternal wall”—where researchers who are mothers are regarded as less competent and dedicated and where motherhood and research excellence are regarded as mutually exclusive (Smithson and Stokoe 2005; Williams and Dempsey 2014). Women researchers thus often hide their family commitments in an attempt to avoid bias. This is linked to the traditional notion of the research profession as a care-free zone, where women in particular hit *the care ceiling*, which this author argues has been exacerbated by the new managerialism. The intensification of the demands placed on researchers and growing competition in the research system are said to breed egocentrism and a declining sense of responsibility, and accord a moral status to carelessness.

Gender stereotypical perceptions of women's and men's capacities and roles then undermine women's ability to progress to higher echelons of the research hierarchy. These gender biases and stereotypes in research assessment have effects in terms of career progress. At the entry level, a

54 These findings underscore the limits of approaches such as those promoted by Sheryl Sandberg's (2013) *Lean In* and other “fix the women” approaches. Clearly, a simple fix of women won't do the job.

study of 6,500 US professors across scientific fields by Milkman, Akinola and Chugh (2012) shows that these professors tend to respond to emails from prospective male doctoral students far more frequently than to those from prospective female doctoral students. At the next level, a recent study documents that male heads of labs at prestigious US institutions in biology train men much more than women, and the difference is even greater among recipients of prestigious grants and awards, but such a hiring differential at the postdoctoral level and graduate training was not found among women lab leaders at prestigious institutions (Sheltzer and Smith 2014). This creates a certain vicious cycle: The prestigious labs headed by men tend to produce many more men for the research pipeline who are then hired by other men heading prestigious labs. Additionally, some studies suggest that women candidates are significantly less likely to be promoted if they are assigned to a review committee composed solely of men, but their promotion chances are equivalent or nearly equivalent to men's if they are assigned to a mixed committee (De Paola and Scoppa 2011; Zinovyeva and Bagues 2010).

While research suggests that implicit gender bias holds across disciplines, a recent US study shows that in fields whose members believe that their field requires “raw brilliance” (e.g. abstraction as in philosophy, mathematics, and physics) rather than hard work and dedication, the numbers of women are particularly low (Leslie, Cimpian, Meyer and Freeland 2015). Testing the “field-specific ability beliefs” hypothesis, the authors also find that the hypothesis extends to African-Americans (but not Asian-Americans). The underrepresentation of women in these fields is thus related to the association of men with brilliance. In light of the mounting evidence of gender bias in research evaluation, it is of major concern that men, including male academics, have been found to evaluate the results of research studies unveiling gender bias as less meritorious than women do (Handley, Brown, Moss-Racusin and Smith 2015). Thus, contrary to the frequent belief that academics and research managers will be persuaded to take action to correct gender bias if presented with

scientific evidence, this study shows that even scientific evidence won't necessarily help.

Related to research into gender bias in evaluation are studies on the "stereotype threat" which argue that if faced with stereotypes about lacking competence in a particular field (such as math) or innate intellectual capacities, women opt out of even applying in such a field (Fine 2010). Gender stereotypes and the culture of science will then work to deter women from entering the profession, and undervalue women researchers' achievements and work on account of associating brilliance and merit with men.

These findings on gender stereotypes and gender bias have far-reaching implications for career progress in the current governance regime in research. If gender bias persists in what is considered as excellent and what is necessary for achievement, in how competences and dedication to research are assessed, and how people judge their own and others' merit, early-career women researchers will be faced with adverse effects not only as students and postdoctoral trainees, but in every instance of career evaluation. Thus, gender bias becomes an even greater threat to women's career progress in research because various types of competition have burgeoned in the research and innovation system as an alleged safeguard against inefficiency and slack. These developments have been shown to refashion the barriers to women's advancement in science (Linková, Cidlinská, Tenglerová, Vohlídalová and Červinková 2013; Metcalfe and Slaughter 2008; Morley 2003).

Symbolic barriers to women's excellence: Masculine gendering of the research profession

In the last decade, the desired goal for Czech science has been to shift from "academic socialism" to "academic capitalism", as a former Prime Minister and Chairman of the Council for Research, Development, and Innovation claimed (Topolánek 2007). The underlying assumption in Czech research and development policy was that the introduction in

the public sector of the principles of competition and competitiveness as we know them from the private sector will lead to greater performance (Shore 2008). Or—as research policy documents like to call it—to excellence, a particular codification of success that currently dominates research policy documents in the Czech Republic and beyond. As science policy and research assessment systems demonstrate, new knowledge is not enough: Excellence is a particular enactment of success built on indexes. The notion of excellence revolves around individual performance, efficiency, competition, competitiveness, speed, primacy, and economic profit of knowledge-making (Linková 2009; Matonoha 2009). As we have seen in Chapter 2, the advancement of the concept of excellence establishes a moral order which defines not only which types of outputs will be included and prioritized, but also a certain approach to knowledge and values which orient research work if it is to be considered successful and relevant.

On a symbolic level, the values that have oriented the recent transformations of research are masculine in nature (Brown 1995: 41). Highlighting competition and competitiveness—as the current system does to the detriment of cooperation and sharing—reinforces values which we tend to associate with masculinity in our gender order. Indeed, as the research reviewed above attests, if women display masculine traits and behaviours, they are considered unwomanly and are penalized. On a symbolic level, excellence thus entrenches the historical masculinity of science. A long line of feminist philosophers of science have argued that the association of science with logic, objectivity, disinterestedness, rationality, discipline, activity and repression of emotions culturally and symbolically excludes women and femininity from the values and practices of science (for an overview see Anderson 2012). The “modest witness”, a ventriloquist who lets nature speak through himself and is a mirror of nature, whose agency is invisibilized in the knowledge-making process, is a specifically gendered figure. Whereas in women modesty was of the body, in men modesty was that of the mind, restrained and dispassionate (Haraway 2004; Shapin and Schaffer 1985). These building

blocks of Western science are an antithesis of femininity, which is defined in opposition as subjective, irrational, emotional, wild, caring, passive, and lacking logic. Or as David Noble argues: “For the male identity of science is no mere artefact of sexist history; throughout most of its evolution, the culture of science has not simply excluded women, it has been defined in defiance of women and their absence.” (Noble 1992: xiv)

The masculine orientation of science and research on a symbolic level translates into the ethos of the scientific profession. The ideal scientist is first and foremost committed to work with few outside responsibilities (Bailyn 2003). Science has long been seen as a mission to which a person surrenders all: research engulfs a person completely with a haunting research question that cannot leave one’s mind (Sonnert and Holton 1995a, 1995b). Such dedication and consummation is often discussed by natural science lab leaders and research managers I interviewed as “having a flame” or “being ablaze”; indeed, they believe it is indispensable if an individual is to produce excellent research results. This metaphor was used by several research participants and indicates full consummation of a person, a mission to which a person sacrifices one’s whole self.

To illustrate the conflicting ideologies of the fully dedicated researcher and the ideology of motherhood applied to women researchers, I will discuss at some length an excerpt from an interview with a prominent lab leader who, at the time of my research, supervised a large number of students and postdoctoral fellows of all levels and was regarded as a highly influential figure, on top of being one of the most-cited Czech researchers. This is how he described the demands of the postdoctoral stage:

“A postdoc cares about one thing only. He wants to launch his career and he needs—in that year or two he will be here—as many publications as possible. A postdoc will give his soul. A postdoc will give his soul to science.”

This absolute dedication, surrendering oneself to the demands of the profession, is in practical terms linked to the culture of long hours, being constantly available, and working nonstop.

“Saturdays, Sundays, there is always work. Some call this workaholism but there is no other way. Either it gives you joy, and if it doesn’t, you have to abandon it...I expect this sort of effort, who doesn’t want it, shouldn’t be here.”

In this account, science subsumes all parts of an individual’s life. This sort of work ethic must be enjoyed; anything less is a compromise. It introduces a moral against which individuals are judged. In my research, lab leaders and managers continue to profess the notion of a researcher as a disembodied worker (Acker 1990) revolving around total concentration on work. In view of the fact that this is a very successful lab leader, he has also had the power to enforce these expectations. As van den Brink and Benschop note (2011: 12): “Standards of merit are constructed by powerful academics who stand to benefit from a construction that is presented as a precise, objective, and univocal measure of excellence.” The demanded work commitment presented above is clearly highly problematic for anyone with a primary responsibility for parental or any other care work, as I shall discuss shortly. For many lab leaders, motherhood and professional breaks are a mere postscript, an addendum that does not figure in their imaginary job description of the fully dedicated researcher. When I inquired in the research interview whether the same rules and demands on work ethic apply to people who have children, the same group leader immediately replaced the ideology of a disembodied worker with an equally exclusionary, though differently, ideology of motherhood when he continued:

“Nothing can be done, now we’re dealing with this, a great female PhD student, she is happily married. There is nothing, no higher priority, you cannot forget about family only for the scientific career, family must come first, support from the family is necessary; my children can’t imagine I would do anything else than work...”

This excerpt is interesting for several reasons. The first part of the quote before my insertion about family presumes a great exertion necessary to develop a scientific career which will lead to an independent position, regarded as the ultimate goal of the research career in the natural sciences. There is no space for compromise, there is only the individual effort focused solely on career advancement. The individual researcher stands here alone, cut completely from any social, family, or geographical milieu, always available. Although I did not use an explicit reference to motherhood or women scientists when I formulated the follow-up question about children and family, the lab leader's answer is gendered. It excludes men as those who could be entangled in relationships of caring and is explicitly formulated from the perspective of women (e.g. the "great female PhD student"). Smithson and Stokoe (2005: 156) use the term *generic female parent* or *generic she* to describe how discussions of parenthood presume that only women and not men are concerned. Noteworthy about the quote is also the importance attributed to women's parenthood (e.g. "no higher priority", "family must come first"). In the case of women researchers there is thus not only the presumption that they will want to dedicate themselves to the family, but there is also a value judgement that attributes women's motherhood the highest value. The family is something that cannot be "forgotten" because of her research career. The morality against which a postdoc is judged is oppositional to the morality against which women fulfilling their womanhood through motherhood are judged.

In view of the fact that this quote was framed by a question regarding when and how many hours the group leader worked, it is telling how he returns to his *own* family in the close of his answer: "My children can't imagine I would do anything else than work." He evokes here the original notion of the uninterrupted, highly consuming work deployment which he demands from members of his group and himself. The insert that came in response to my question thus underlies the Otherness of active/caring parenthood in the lab. His notion of his parenting role is *a priori* that of an inactive and distant father, a father who is absent from

the private sphere, and is focused solely on his achievement in the sphere of paid work.

In the new competitive organization of research, research performance takes on the particular form of building a publication track record and a competitive CV with fellowships abroad. This is, in fact, what the postdocs will give their soul for in the contemporary dynamic lab. To return to the quote, in the forefront we see a father absent from his family fully devoted to his work who claims that his family does not even presume it could be otherwise. Active/caring parenthood and concerns of care are invisible, displaced from the lab, thereby making it possible to insist on the extreme individual work exertion expected particularly in the early stages of the research career. These value judgements are then used when assessing the excellence of applicants for postdocs. The ubiquity of assessment systems and building the most competitive CV has a gendered impact. As Williams and Segal (2003: 80) argue, it is this notion of “an ideal worker who has a man’s body and men’s traditional immunity from family caregiving [that] discriminates against women.” Because of the supreme value attributed to women’s motherhood not only in Czech society, professed also by important lab leaders and managers, and because of the strongly embedded notion of research as a mission, it remains particularly difficult for women to carve out a space for a successful combination of research work and private life.

The care ceiling: Motherhood as a natural handicap

I will now turn explicitly to how lab leaders and research managers regard motherhood and the ability of researcher-mothers to perform the scientific ethos discussed above. Explicitly, researcher-mothers were discussed as necessarily unable to commit fully to science because they must fully dedicate themselves to tending to their children. In the interviews, lab leaders and managers at the research institutions studied frame scientific excellence as mutually exclusive with motherhood. Being a good mother requires a whole person and her mind, just like being an excellent

researcher does. No such demands were placed on fathers and it was even reflected that fathers have an easier way out. Women scientists are then implicitly excluded from imaginaries of excellence.

“It is true that really, the woman cannot think 100 % about science especially if she has a family, and simply, I know this is not right but that’s the way it is.” (Top management, male)

“It is difficult because scientific work is something else, it can’t be postponed. And equally, mothering care cannot be postponed, either, that I would stop thinking about it and now start thinking about something else. Here I see the biggest problem because I really was able to totally dismiss childcare because I knew that I could rely on my wife, and now I may regret some things, that I was abroad and kept going away and what I lost, but that’s the way it is. And I see a huge problem harmonizing these things. I know women scientists abroad who were able to go to a conference with a nine-month old baby and manage the childcare somehow, but these were very exceptional cases. And maybe somewhere else these conditions exist, but in the Czech Republic they most certainly don’t, and I see the biggest problem in the switching—that the childcare needs constant thinking and scientific work does, too.” (Top management, male)

Motherhood is seen as the single most significant barrier to women’s professional advancement in science. This does not concern only the actual career break involving maternity and parental leave⁵⁵, but the fact that the Czech gender contract continues to define the woman as the primary carer for children and home. While there may have indeed been some changes toward active fatherhood among the younger generation of men, research indicates that in the younger generation of research couples, the traditional distribution of roles predominates, and it is in

55 In 2016 men accounted for 1.86 recipients of the parental allowance (Czech Statistics Office, 2016: 180, table 5–7).

the gender-traditional academic couples where women's careers suffer the most (Vohlídalová 2010, 2014).

The interviewees declared that women's and men's research careers differ, and located the reason for this difference in motherhood, much like the policy-makers in Hana Tenglerová's chapter above. Women's professional advancement and productivity slow down. Motherhood figures in the interviews as a "handicap" for a research career; it is perceived as a limiting factor. To aggravate things even further, this particular limit cannot be overcome; women can never make up for the time "lost" caring for children. Some lab leaders and top managers thus propose alternative career paths for women, though when judged against the scientific ethos discussed above such a strategy would clearly trap women at the lower rungs of the career ladder. Furthermore, such a proposal begs the question whether the alternative path is viable in the shifting research landscape predicated on a succession of short-term stints in labs across the globe.

"It is most certainly worth addressing, although real equal opportunities is something I see as unreachable [smiles]... I think the institutions should motivate women to quickly, intensively work things off when they can because when motherhood enters the process of scientific training, it can't be caught up with. So I would really watch that they do not prolong the years [needed to obtain doctorate], plus include a foreign fellowship in this. This will help women most to manage—they simply have a shorter time than men because men don't count on something interrupting their advancement. And I am convinced that they will be able, when they are ready like this, to return to a [research] problem even in motherhood..." (Top management, male)

Motherhood is seen to limit women's research careers in yet another way. In lab leaders' and research managers' accounts, motherhood poses a specific barrier to women's advancement to leadership positions and to their progress up the career ladder more generally. There are two issues, one is related to slowing down and having fewer results on their CV and

the other is the lack of energy or ambition that women scientists with children have.

“I think that here it’s primarily women or moms who stay with children, it’s given by our cultural tradition, and the interruption is just visible there. That’s one thing. It’s not just about a person going on maternity leave, but that you have to provide support to children for a relatively long time, twenty years, right, so this shows in the career. And mostly the pressure on the dad is just smaller. And secondly, I think they are just left with less energy to have, in addition to doing science, this sort of ambition [aspiring to leadership positions].” (Team leader, male)

Again, the extremely demanding notion of motherhood (for further discussion see Chapter 4 by Hana Tenglerová and Chapter 6 by Marta Vohlídalová) extant in the Czech Republic, against which women, including researchers, are judged, creates major cultural barriers to women’s advancement.

All the interviewees variously discussed the impact of motherhood on women’s research advancement and recognized the consequences of the gendered distribution of roles and responsibilities between mothers and fathers. Despite this recognition, many of the male lab leaders and research managers I interviewed continue to envision the advancement of a research career as an individual choice a woman either makes or not, irrespective of the symbolic, structural, interpersonal, and individual conditions facing women and men in their careers. On the one hand, these men ascribe a high value to motherhood and consider it as proper that women surrender career advancement for childcare; on the other hand, they place responsibility for the failure to progress on the woman. In their accounts science is enacted as immune to these “external” concerns, which are located outside, in social policy, in the family, and in providing childcare facilities. These areas are regarded as of no concern to the leadership of research organizations or research policy. Indeed, they are of no concern to these actual top managers and lab leaders who refused the

notion that the research institution or they in their leadership and managerial roles would have any responsibility for creating non-discriminatory working conditions. It is remarkable that these interviewees would place so much stress on the women's individual agency and responsibility, yet completely fail to see their own responsibility as leaders and managers.

This displacement is possible through the separation of the domain of science from society and social processes and through locating the issue of work-life balance as the women's handicap. Researchers and research managers manage to maintain the separation between science and work-life balance issues by mobilizing a particular notion of science, "an incredibly specific activity" which demands "huge personal sacrifices", a mission to which everything must be subordinated.⁵⁶ This strategy allows them to create space for displacing the blame for the low numbers of women in science on women researchers themselves. It allows them to argue that women opt out by having different life priorities and that they should not be forced to give up their "womanhood". Thus, they can maintain that the organization of research is neutral and its practices are not gendered. Conditions on the scientific labour market are regarded as uniform and placing equal demands on women and men; it is up to the woman whether she can make use of these equal conditions or not, and whether she makes the right choices. When she does, there is nothing to stand in the way of her success in research. These lab leaders and research managers are, however, quick to add that it is women who always care for children of certain age and therefore will always "miss the train". In this

56 At the same time, research is often discussed in the Czech Republic as a profession that is suitable for women thanks to its large degree of flexibility as to choosing work hours. While this may be true in general, my research suggests that when flexibility is discussed specifically in relation to combining work and home life, issues of mistrust and control of work performance gain in power—clearly, the advantage of flexibility is regarded differently in relation to different situations and needs. Moreover, this alleged suitability of flexible academic work must be taken in the context of their other statements about full dedication and concentration. This looseness of how flexibility is applied to academic work and women and men academics reinforces the perception that one is responsible for one's performance and failure.

way, structural discrimination is naturalized and located in women rather than in the gender ordering of the joined institution of the profession and the family. This hyper-visibility of work-life balance contributes to re-enforcing gender stereotypes in science. It effectively stops any further debate about gender inequalities in the organization of research. With the concept of the policy of inactivity, Hana Tenglerová's Chapter 4 in this book examines discursive practices mobilized by researchers and policy makers as a strategy that allows them to not take any action to combat gender inequality in research and research institutions. It is the focus on women's maternal role and the separation of science from society that exempts her interviewees from any responsibility for existing gender inequalities. Similarly, the lab leaders and research managers I interviewed adopt a policy of inactivity as a strategy to deny the relevance of gender differentials in science, with the consequence that the high attrition rate of women from science remains on the margins, if not outright outside their concerns as research managers and lab leaders.

The glass ceiling: Gendered notions of leadership skills

The motherhood-related barriers to women's career progress are compounded by the persistence of gender stereotypes related to qualities that a person allegedly needs for leadership positions and the perception of different skills and competences that women and men researchers supposedly bring. These are related to being able to show masculine traits—being assertive, having sharp elbows, some aggression, or being able to argue and communicate in male-only groups, and enjoy risk-taking.

"...Unfortunately in the leadership positions, not only here but generally, men predominate. She has to be a little of a predator so that she doesn't get lost because some guys are bulldozers." (Lab leader, male)

"I can't and would never say that these qualities could not be found in a woman but in any case the atavisms in the aggression—the

woman won't achieve this, I hope [laughter], sometimes the position of the team leader follows from some aggression and I think that taken generally, the men have gotten there in this way." (Top management, male)

"The way I see it is that guys simply like risks so they submit grants, they have the time to give it the weekends, and generally it is perceived that women don't give it so much, they don't go for it, they can't sell themselves, which I really mind, of course among team leaders, the useless modesty, that's really hell with the girls, this must be changed somehow." (Top administration, male)

In these accounts we can see additional gendered notions that bar women from entering leadership positions. Firstly, leadership positions are predicated on being aggressive and ambitious, being “bulldozers” that can withstand the culture of male-only groups, and shedding modesty. Secondly, leadership positions also presuppose energy and time, which women lack. In both cases, what is problematized is not the masculine notion of leadership, but the perceived lack of this in women. The interviewed lab leaders and managers may have mentioned women’s interpersonal skills, empathy, and ability to negotiate, and there is some recognition that these may also be important. However, these positive aspects of a different leadership style are in the end undercut by the overriding need for toughness (cf. van den Brink and Benschop 2011).

Related to this are perceptions of the different cognitive styles of women and men researchers, which can be summarized as men having a synthetic approach to issues, having a “bird’s eye view”, and looking at problems globally. Women, in contrast, were seen as analytical, and fastidious, with attention to detail, suited for routine work. These qualities are regarded as complementary, and some team leaders actually strive to have a gender balance in their teams, they claim, to make most of this allegedly innate, sex-based difference between the scientific competences of women and men.

“I think we managed to change a team that was purely masculine into a team where it is half and half the way I imagined it to be 10 years ago because it has huge advantages. Even in our team I just see that female colleagues do not have the thrust and the initiative to go after a project or take up a new challenge. They’re, let’s say, analysts and people who do great experimental work, meticulous work, but they lack the bird’s eye view, which is something that male colleagues have. I really perceive this that women colleagues will do great analysis, top statistical analysis of a situation but they lack the bird’s eye view, the interpretation of the result. On the other hand, male colleagues have a tendency to see the whole, but that’s why they do not see the details and often make mistakes, so it’s ideal if these two approaches combine. But the synthesis approach, that’s the one that creates grants, it’s the one that puts teams together, so I think that it’s partially given by, I don’t know if it’s a coincidence in our team but really it functions in such a way that women colleagues are analysts and male colleagues are the ones doing synthesis.” (Team leader, male)

“Generally it seems to me that women are sort of more meticulous, the guy has a bird’s eye view, but if he should be doing more routine work for a longer period of time, it goes to hell...” (Team leader, male)

These quotes are used here to illustrate the strongly embedded unconscious gendered presumptions of how women and men operate and do research work. This notion of complementarity of cognitive styles (analytical/synthesis) makes it possible to stress “diversity” within the team, but by distributing cognitive styles between men and women and associating one with leadership and vision, and so the value of diversity is locked within the team. These attitudes create a barrier located in women’s cognitive styles against women’s progress to top positions and positions of responsibility.

Together with the perceived barriers posed by motherhood and the career gap discussed above, it thus may appear to these high-ranking researchers and managers that women are utterly unsuited for leadership

positions. Here, as in the previous section, we can see the problem is located in women. In this particular display of benevolent sexism, women don't even need fixing because the allegedly innate cognitive difference is useful for work distribution in the team. Completely lacking in these reflections is the possibility that if these lab leaders and managers explicitly profess this division of roles in their teams, they may be, in fact, creating barriers for women, and especially early-career doctoral and postdoctoral fellows, to overcoming the "useless modesty" some of these men complain about.

Institutional barriers to women's excellence: Short-term contracts, competitive funding, and assessment criteria

The masculine ethos and values of the research profession discussed in the preceding sections translate into organizational rules and practices. These are in evidence in assessment systems of researchers' performance, as well as in various types of eligibility rules and criteria that research funding organizations adopt. Changes in the forms of funding and the related stress on competition and assessment also give rise to the dynamic lab organization discussed in the introductory chapter. In this section I will discuss the gendered impacts of these developments.

The index frenzy: Impact Factor, Hirsh, and citations

In the past decade national research assessment systems have been implemented in many countries of Europe, following an earlier lead from the UK. These assessment systems centre on measures of publication productivity, especially in high impact factor journals. These assessment systems, anchored in New Public Management and Quality Management, increasingly serve to distribute funding, including block institutional funding, on a competitive basis. The EU places increasing stress on competitive funding of public R&D in its European Research Area initiative. These transformations bring to the forefront the crucial

role publication productivity plays in advancing one's scientific career as well as in institutional development. Furthermore, as research careers in Europe have become more standardized, maintaining productivity is essential as researchers are assessed at each of these stages throughout their careers, in addition to regular institutional review systems in place. The increasing competitiveness of the national and institutional systems in Europe encourages strategic behaviour and affects publication patterns (Corsi and Zacchia 2014; Linková 2014; Linková 2014; Prpić 2002).

In the current research system, the fire and dedication discussed above must be moulded into a very particular output. Invariably, for the natural sciences the end result is clear: *Impact Factor papers*. Impact Factor (IF) papers are the most common scientific output and what defines academic excellence. Papers, however, are not an indicator of career success only according to the impact factor and a rank in the assessment. Through citations and the reception of papers by the scientific community—how they are read, cited, or criticized—they also refer to success within the research community and strengthening of one's reputation. According to Zabusky and Barley (1996: 192, 207), papers mediate success both in terms of advancement (where success is measured in terms of progress up a vertical ladder) and achievement (where success is measured in terms of expertise and position within a network of peers).

The internal assessment of research productivity at the institutes I studied does not include other activities such as supervision or outreach and communication work.⁵⁷ Papers published in high Impact Factor journals⁵⁸ are the only things that count, although applied results have come

57 Of course the institutes and their management are aware that there are activities that must be ensured which do not receive any recognition, and they develop ways to manage this organizational complexity. However, the institutional rules, documents, and visions present IF papers as the only relevant output (Linková 2014).

58 The Impact Factor is a measure reflecting the average number of citations to recent articles published in that journal. The most commonly used database is that of Thomson Reuter's Web of Science (previously, ISI Web of Knowledge). In the natural sciences researchers often regard international journals with a high Impact Factor as

to be included too, especially since they have come to be recognized and attributed high point scores in the national assessment system.

“I have already simply said I am interested in IF ... I say, you had better churn out IF...” (Top management, male)

“We constantly exhort our subordinates: write papers, you’ll be assessed according to this.” (Team leader, male)

The stress on IF papers is not unique to the natural sciences; what is problematic about current research organization is that in the dynamic system the volume of research assessment has increased together with competition for scarce jobs. Often, the absolute number of IF publications or the Hirsh index⁵⁹ are used to evaluate applicants for jobs, fellowships, and grants as well as in the internal assessment systems of research institutions. The various assessment systems rarely recognize career breaks and the resulting lower publication record of people taking a leave of absence. Some grant agencies strive to address this issue by, for example, requesting a selected number of publications over a given period of time (e.g., the best five or ten publications depending on the career stage), as is the case in the European Research Council or in the US National Institutes of Health. These agencies also invite applicants to explain potential career breaks. Such practices, however, continue to be the exception rather than the rule.

As regards publication productivity, research shows that women tend to publish less than men, and the reasons for this have been variously identified in the unequal distribution of childcare (Fuchs, Stebut and Allmendinger 2001; Kyvik and Teigen 1996; Kyvik 1990), women’s

the only meaningful venue for publishing their research even as there are those who will dispute the relevance of the Impact Factor for assessing research quality (more on this in the next section).

59 The Hirsh or h-index is an author-level metric that attempts to measure both the productivity and citation impact of the publications of researchers. The index is based on the set of a scientist’s most cited papers and the number of citations that they have received in other publications.

lesser integration in professional networks (Abramo, D'Angelo and Murgia 2013; Caprile et al. 2012; Larivière, Ni, Gingras, Cronin and Sugimoto 2013), and underrepresentation of women in higher echelons of the academic hierarchy (Abramo, D'Angelo and Caprasecca 2009: 10; Caprile et al. 2012: 100; Corsi and Zacchia 2014). A related issue is that citation patterns also differ, as men are less likely to cite women authors compared to men (Hakanson 2005; Hutson 2006; Kahn and MacGarvie 2014; Knobloch-Westerwick and Glynn 2013; Maliniak, Powers and Walter 2013) and are more likely than women to cite themselves (King, Correll, Jacquet, Bergstrom and West 2015). Gender-blind assessment systems which focus only on the volume of output thus run the risk of institutionalizing measures and practices that are gendered and may have adverse effects on women's careers.

Early-career precariat: Fixed-term contracts as avenues of exit

Another structural problem relates to the changed organization of a lab from the dynastic to dynamic organization. In the previous—dynastic—organization, job stability was far greater, and while career breaks may have stalled women's careers, it allowed them to return to their position and continue research work. The current—dynamic—system makes this more difficult on several counts. Firstly, compared to the past, researchers in the Academy of Sciences are predominantly employed on (successive) fixed-term contracts.⁶⁰ Some institutes, especially in the natural sciences, have introduced rules governing an exit from the institution after the completion of the doctorate or the postdoctoral fellowship, which generally spans one or two years. Furthermore, the Czech Labour Code protects mothers' employment, but this does not cover fixed-term

60 The Council Directive 99/70/EC was adopted with the express goal of preventing the abuse of successive fixed-term contracts with one employer. Because of the shift towards the dynamic lab organization involving competitive grant funding and circulation of students and postdocs, permanent contracts are seen as untenable.

contracts. If a work contract expires during the maternity or parental leave, women researchers are unprotected.⁶¹ The exit rules coupled with a lack of protection for parents on temporary contracts creates major avenues of exit from academic research. Between 2001 and 2013 the gap between women's proportion among doctoral students and researchers increased from 9 percentage points to 19.9 percentage points (Národní kontaktní centrum – gender a věda 2017: 23).

Another problem arises in consequence of the transformation of available positions. If in the dynastic lab the team involved the head, several independent researchers who answered to the head and trained their own students, junior researchers, and candidates of science (the equivalent of today's doctoral students), this of course contributed to petrification and nepotism. Independent researchers were typically responsible for the development of partial lines of research, the transfer of tacit knowledge in the lab, everyday organization of work and socialization of early-stage researchers and students, not to mention administrative and care work (Garforth and Červinková 2009: 136–137). They also embodied a strong collective aspect which especially independent female researchers cherish (cf. de Cheveigne 2009: 126–127). In contrast, the dynamic lab revolves around the lab leader and a circulation of postdocs and students at all educational stages. “Remnants of the past”⁶², as one early-stage researcher labelled them, independent researchers find themselves in an institutionally insecure and increasingly unintelligible position in the dynamic system. The transformation and introduction of individual assessment systems have relegated them to a position where claims of excellence are

61 The Czech Labour Code protects only parents on permanent contracts: a woman cannot be fired when pregnant, and an employer is obligated to hire her back after maternity and parental leave. However, if a person is employed on a temporary contract such protection is not available: the contract simply expires on the agreed date and with it all the benefits that parents enjoy under the Labour Code in relation to pregnancy and maternity and parental leave.

62 Garforth and Kerr use the term “perennial postdoc” to describe researchers in this position (2009: 16).

hard to make (Linková 2009: 91–2). In the new system, their research must be in line with the focus of the lab leader’s research profile, and they have fewer students and postdocs since the lab leader is the primary supervisor. Furthermore, the lab leader is usually the person who defines the research question, and thus they are often the corresponding authors (while the students and postdocs are first authors). The ability of the remaining independent researchers to produce IF papers is thus limited compared to the lab leader, especially in the position of the asterisk (corresponding) author.

There are signs this can be recognized and managed at the level of research teams. One of the institutions I studied dropped the assessment of individual researchers one year after I completed my research, and started assessing entire teams instead. Thus, lab leaders have discretion over how to divide work within a team, and manage performance, competition, and cooperation. Research, however, shows that men in independent research positions can often choose not to perform care and emotional work in the lab, having thus greater opportunities to preserve more “selfish” time for their own research (see Kerr and Lorenz-Meyer 2009). These differences in performing care work and lab housekeeping may translate into career differentials even at the position of independent researchers, with men possibly outperforming women. This would obviously have consequences when an independent researcher decides to move outside the lab and compete for the position of a lab leader—there the individual performance becomes hyper-visible again. And equally, even if the lab leader manages to distribute work according to individual preferences, early career researchers will be exposed to the individual-based competitive assessment gaze as soon as they leave the lab and compete on the international academic labour market. Thus, within the team, the head can act as a “buffer”, as one lab leader put it, protecting the team against the demands of excellence grinding each individual, but this is no solution at the structural level as those who are thus buffered will lose out when competing against those who are not. As the research discussed above suggests (Sheltzer and Smith 2014), it is indeed plausible that prestigious

lab leaders will choose precisely those people who are willing to practice the highly competitive disembodied excellent self from the rank of the PhD student upwards.

Grant competitions: Parents excluded

Today, research funding organizations are another major player in the competitive research landscape, precisely because stable institutional funding has dramatically decreased and is being replaced with competitive funding involving grants and fellowships. In the Czech Republic, grant agencies were established shortly after 1989. The Czech Academy of Sciences established its own Grant Agency in 1990, which was followed by the Czech Science Foundation, established in 1992 though Act No. 300/1992 Coll., on the State Support for Research Activities and Technological Development.

To support scientific development in the early career stages, two grant schemes were instituted in the Czech Republic for researchers under 35 years of age, the Junior Research Grant Projects of the Grant Agency of the Czech Academy of Sciences⁶³ and Postdoctoral Grant Projects of the Czech Science Foundation. In 2005 the National Contact Centre for Gender and Science⁶⁴ petitioned these research funders for the first time to abolish the age limit of 35 years for this type of grant and replace it with years since PhD. Furthermore, the Centre also called for an extension of the time limit by the period spent on parental and maternity leave. These changes did not provoke much controversy and were implemented in both agencies. With the planned closure of the Grant Agency of the

63 This grant agency no longer exists. Following the objectives of the 2008 research and development reform to reduce the number of research funding providers in the country, funds for basic research came to be incorporated under the Czech Science Foundation.

64 The National Contact Centre for Gender and Science (established as the National Contact Centre for Women and Science) was established in 2001 to advance gender equality in research. For more information see www.genderaveda.cz.

Czech Academy of Sciences, further negotiations of eligibility rules concentrated on the Czech Science Foundation. As gradually transpired, a major problem was that the Foundation did not allow principal investigators (people who are awarded a grant) to interrupt or postpone the implementation of a grant in the event of pregnancy and parenthood. Coupled with the rule that early-career researchers were allowed to apply for and be awarded the postdoctoral grant only once, a discriminatory mechanism was introduced into the grant scheme. Firstly, if a postdoc became pregnant during the implementation of her grant, there were no transparent rules for her to interrupt its implementation for the duration of the legally defined maternity and/or parental leave. Secondly, if she became pregnant between the submission of the application and the award of the grant, and she decided to return the grant because of the coming childbirth, she was barred from subsequent competition because the grant can be awarded only once. Despite efforts to raise this issue with top management of the Czech Science Foundation no changes were made to the system; in the end the Centre lodged a complaint to the Public Defender of Rights (Ombudsman)⁶⁵ against suspected discrimination based on sex. In a report on discrimination issued in 2013, the Ombudsman confirmed the alleged discrimination, identified additional problems in the grant scheme, and made proposals for changes that the Czech Science Foundation should adopt.

In 2014, the Czech Science Foundation announced the termination of the postdoctoral grant scheme, and replaced it with junior grants. With this much-criticized step, the Foundation cancelled funding for people shortly after their PhD who wished to consolidate their research focus, and replaced it with a highly competitive scheme that was said to be modelled on the European Research Council starting grants. Junior

65 The Public Defender of Rights protects people against the conduct of authorities and other institutions if the conduct is against the law, does not correspond to the principles of a democratic legal state and the principles of good administration, or the authorities are inactive. For more information see <http://www.ochrance.cz/en/>.

grants should be highly selective, aim at establishing a junior research group and thus this funding is available for only a small number of early-career researchers in the country. The proposed scheme copied all the problematic rules of the previous postdoctoral grant scheme, and added a new dimension. In lieu of excellence, the eligibility criteria included a six-month postdoctoral fellowship abroad. The Centre argued that, again, this eligibility criterion introduced indirect discrimination into the system, given women's smaller chances of building a mobility track in the postdoctoral phase (see Marta Vohlídalová's Chapter 7 on academic mobility). In response to public pressure, the Czech Science Foundation amended the requirements to allow applicants to request an exemption from this rule in exceptional cases or a replacement of the six-month fellowship with two three-month fellowships. Because the Czech Science Foundation refuses to publish sex-disaggregated statistics, the Centre requested information in 2015 pursuant to the Act No. 109/1999 Coll., on free access to information. It turns out that in 2014 when the junior grants were awarded for the first time, 99 applications for junior grants were submitted by women principal investigators and 198 by men principal investigators. In total 24 women and 24 men requested an exemption from the six-month postdoctoral fellowship; interestingly, only 9 women but 14 men were granted the exemption. What begs investigation at this moment is the grounds on which early-career women and men researchers requested the exemption and why women were granted the exemption less frequently than men. Since the alleviation of the six-month postdoctoral fellowship rule was intended primarily so as to recognize the limits faced by women in relation to long-term mobility, it is interesting that equal numbers of women and men requested an exemption. I may only speculate that the higher rate of exemptions granted to men may be related to work-related issues such as team or grant leadership, teaching commitments, or the fear of losing contact with one's professional network, whereas the main reason for women may

be family and partnership related issues.⁶⁶ If this were the case, it would further reinforce the opposition between parenting and excellence.

The design of support programmes, especially for early-career researchers, clearly shows a high degree of gender blindness. A draft of any support programme in the Czech Republic is submitted to the government for approval, and as such should be gender-mainstreamed pursuant to article IV, paragraph 7, item c of the Rules of Procedure of the Government, with the use of the Methodology for Assessing the Impact on Equality of Women and Men for Materials Submitted to the Government of the Czech Republic. Clearly, such gender mainstreaming is not performed, and was not performed even after the Ombudsman issued the report and recommendations related to the postdoctoral grants of the Czech Science Foundation. Research funding organizations thus continue to design their support programmes on the assumption of a linear, uninterrupted research path, with parenthood displaced from the events that may occur in a researcher's life. This promulgates the notion of the disembodied researcher, who is mobile and career oriented. The symbolically strong, and politically and institutionally supported if not imposed demand on flexibility and mobility is thus another factor that co-creates barriers to the professional advancement of researcher-mothers. As in the case of research assessment, the alleged gender neutrality of the mobility requirements veils gendered expectations of the dynamic lab.

Conclusion: The gendered organization of research and displacement of responsibility

In this chapter I reviewed some of the gendering effects in the current organization of research in relation to excellence. Firstly, I attended to the

66 The MORE 2 study (MORE 2, 2013) indeed finds that personal and family reasons are particularly potent barriers to mobility in the post-PhD stage and are particularly salient for people with children compared to those without children. The study also finds that non-mobile women identify that funding issues are important barriers to mobility.

refashioned masculine orientation of the research ethos, building on the previous notions of science as a mission performed by a fully consumed researcher with no commitments outside science, now compounded by the demands of competition and attendant toughness. Secondly, I discussed how these values get translated into institutional rules where a seeming gender neutrality actually figures as a discriminatory mechanism, especially in the early career stages, with stress on uninterrupted career progress, international mobility, and a competitive CV with a track list of IF publications. Taken together, it is not surprising that the proportion of women in the natural sciences in the Czech Republic has not improved since the new millennium and that women are severely under-represented in leadership positions, in particular.

My research suggests that lab leaders and research managers often define equality as “equality in difference” where men and women are regarded as different by nature, and this difference is given biologically through childbirth or socially through childcare. Several interviewees stated that the differences between men and women are good and should not be abolished even as they recognized and admitted that this difference limited the possibilities for women scientists to advance professionally. This was also evident in the propensity to frame the complementarity of women and men in relation to different skills and capabilities. While they may claim that such a distinction does not mean that “guys are better than women—generally speaking”, they nevertheless make it clear that they value the synthesis capabilities more than the analytical ones, and moreover, that the synthesis qualities are the ones that ensure career advancement to top leadership positions. Thus, by framing equality as equality in difference and men and women as being complementary, many of the interviewees are able to circumscribe the issue of gender equality to motherhood and to side-line the issue of women’s access to leadership positions. Additionally, they also frame equality and excellence as an individual choice a woman makes—if she decides for a career she can progress quickly, and if she decides for a family she must face obstacles. Framing the issue as a woman’s individual choice thus allows

these high-ranking representatives of research institutions to exempt themselves from responsibility they have as managers, leaders and colleagues embedded in their own private gendered circumstances. This individualized framing allows them to disregard the contingency of men's professional advancement upon their partners' circumscription of their aspirations (see Chapter 7 by Marta Vohlídálová in this book) as well as the gendering of the institutional conditions as regards grant competitions and assessment systems. Such displacements of the gendering effects exempt institutions and their representatives from taking a more active stance on the issue of women's professional advancement and representation in leadership positions—and gender equality more generally—and from examining the ways in which our current assessment cultures are gendered as masculine.

Literature

- Abramo, G., C. A. D'Angelo and A. Caprasecca. 2009. 'Gender Differences in Research Productivity: A Bibliometric Analysis of the Italian Academic System.' *Scientometrics* 79 (3): 517–539, <http://doi.org/10.1007/s11192-007-2046-8>.
- Abramo, G., C. A. D'Angelo and G. Murgia G. 2013. 'Gender Differences in Research Collaboration.' *Journal of Informetrics* 7 (4): 811–822, <http://doi.org/10.1016/j.joi.2013.07.002>.
- Acker, J. 1990. 'Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations.' *Gender & Society* 4 (2): 139–158, <http://doi.org/10.1177/089124390004002002>.
- Anderson, E. 2012. 'Feminist Epistemology and Philosophy of Science.' In *The Stanford Encyclopedia of Philosophy* (Fall 2015). (<http://plato.stanford.edu/archives/fall2015/entries/feminism-epistemology/>).
- Bailyn, L. 2003. 'Academic Careers and Gender Equity: Lessons Learned from MIT1.' *Gender, Work and Organization* 10 (2): 137–153, <http://doi.org/10.1111/1468-0432.00008>.

- Benschop, Y. and M. Brouns. 2003. 'Crumbling Ivory Towers: Academic Organizing and its Gender Effects.' *Gender, Work and Organization* 10 (2): 194–212, <http://doi.org/10.1111/1468-0432.t01-1-00011>.
- Brown, W. 1995. *States of Injury: Power and Freedom in Late Modernity*. Princeton, New Jersey: Princeton University Press.
- Caprile, M., E. Addis, C. Castaño, I. Klinge, M. Larios, D. Meulders and S. Vázquez-Cupeiro. 2012. *Meta-analysis of Gender and Science Research: Synthesis report*. Luxembourg: Publications Office of the European Union, <http://doi.org/10.2777/75176>.
- Corsi, M. and G. Zacchia. 2014. *Women Economists in Italy: A Bibliometric Analysis of Their Scientific Production in the Past Decade* (CEB Workin).
- Czech Statistics Office. 2016. *Focus on Women and Men*. Prague: Czech Statistics Office. (<https://www.czso.cz/csu/czso/focus-on-women-and-men>).
- de Cheveigne, S. 2009. 'The Career Paths of Women (and Men) in French Research.' *Social Studies of Science* 39 (1): 113–136, <http://doi.org/10.1177/0306312708097656>.
- De Paola, M. and V. Scoppa. 2011. *Gender Discrimination and Evaluators' Gender: Evidence from the Italian Academy*. Università della Calabria, Dipartimento di Economia, Statistica e Finanza (Ex Dipartimento di Economia e Statistica. (<http://econpapers.repec.org/RePEc:clb:wpaper:201106>).
- Eagly, A. H. and S. J. Karau. 2002. 'Role Congruity Theory of Prejudice toward Female Leaders.' *Psychological Review* 109 (3): 573–98. (<http://www.ncbi.nlm.nih.gov/pubmed/12088246>).
- Felt, U. and T. Stöckelová. 2009. 'Modes of Ordering and Boundaries that Matter in Academic Knowledge Production.' Pp. 41–124 in *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*. Prague: Institute of Sociology of the Academy of Sciences.

- Fine, C. 2010. *Delusions of Gender: The Real Science behind Sex Differences*. New York: W.W. Norton & Company, Inc.
- Fuchs, S., J. Stebut and J. Allmendinger. 2001. 'Gender, Science, and Scientific Organizations in Germany.' *Minerva* 39 (2): 175–201, <http://doi.org/10.1023/A:1010380510013>.
- Garforth, L. 2012. 'In/Visibilities of Research: Seeing and Knowing in STS.' *Science, Technology & Human Values* 37 (2): 264–285, <http://doi.org/10.1177/0162243911409248>.
- Garforth, L. and A. Červinková. 2009. 'Times and Trajectories in Academic Knowledge Production.' Pp. 169–224 in *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*, edited by U. Felt. Prague: Institute of Sociology of the Academy of Sciences.
- Garforth, L. and A. Kerr. 2009. *Constructing Careers, Creating Communities: Findings of the UK KNOWING Research on Knowledge, Institutions and Gender*. University of Leeds.
- Garforth, L. and T. Stöckelová. 2012. 'Science Policy and STS from Other Epistemic Places.' *Science, Technology & Human Values* 37 (2): 226–240, <http://doi.org/10.1177/0162243911417137>.
- Gutiérrez y Muhs, G., Y. F. Niemann, C. G. González and A. P. Harris. (Eds.). 2012. *Presumed Incompetent: The Intersections of Race and Class for Women in Academia*. Utah State University Press.
- Hakanson, M. 2005. 'The Impact of Gender on Citations: An Analysis of College & Research Libraries, Journal of Academic Librarianship, and Library Quarterly.' *College & Research Libraries* 66 (4): 312–323, <http://doi.org/10.5860/crl.66.4.312>.
- Handley, I. M., E. R. Brown, C. A. Moss-Racusin, and J. L. Smith. 2015. 'Quality of Evidence Revealing Subtle Gender Biases in Science is in the Eye of the Beholder.' *Proceedings of the National Academy of Sciences of the United States of America* 112 (43): 13201–13206, <http://doi.org/10.1073/pnas.1510649112>.
- Haraway, D. J. 2004. 'Modest_Witness@Second_Millennium.' Pp. 223–250 in *The Haraway Reader*. New York and London: Routledge.

- Heilman, M. E. 2001. 'Description and Prescription: How Gender Stereotypes Prevent Women's Ascent Up the Organizational Ladder.' *Journal of Social Issues* 57 (4): 657–674, <http://doi.org/10.1111/0022-4537.00234>.
- Heilman, M. E. and A. H. Eagly. 2008. 'Gender Stereotypes Are Alive, Well, and Busy Producing Workplace Discrimination.' *Industrial and Organizational Psychology* 1 (4): 393–398, <http://doi.org/10.1111/j.1754-9434.2008.00072.x>.
- Heilman, M. E., A. s. Wallen, D. Fuchs and M. M. Tamkins. 2004. 'Penalties for Success: Reactions to Women who Succeed at Male Gender-typed Tasks.' *The Journal of Applied Psychology* 89 (3): 416–27, <http://doi.org/10.1037/0021-9010.89.3.416>.
- Hutson, S. R. 2006. 'Self-Citation in Archaeology: Age, Gender, Prestige, and the Self.' *Journal of Archaeological Method and Theory* 13 (1): 431–435.
- Kahn, S. and M. J. MacGarvie. 2014. 'How Important is US Location for Research in Science?' *Review of Economics and Statistics* 141107120035007, http://doi.org/10.1162/REST_a_00490.
- Kerr, A. and D. Lorenz-Meyer. 2009. 'Working Together Apart.' Pp. 127–167 in *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*, edited by U. Felt. Prague: Institute of Sociology of the Academy of Sciences.
- King, M. M., S. J. Correll, J. Jacquet, C. T. Bergstrom and J. D. West. 2015. *Men Set Their Own Cites High: Gender and Self-citation across Fields and over Time*. Palo Alto, California.
- Knobloch-Westerwick, S. and C. J. Glynn. 2013. 'The Matilda Effect-Role Congruity Effects on Scholarly Communication: A Citation Analysis of Communication Research and Journal of Communication Articles.' *Communication Research* 40 (1): 3–26, <http://doi.org/10.1177/0093650211418339>.
- Kyvik, S. 1990. 'Motherhood and Scientific Productivity.' *Social Studies of Science* 20 (1): 149–160, <http://doi.org/10.1177/030631290020001005>.

- Kyvik, S. and M. Teigen. 1996. 'Child Care, Research Collaboration, and Gender Differences in Scientific Productivity.' *Science, Technology & Human Values* 21 (1): 54–71, <http://doi.org/10.1177/016224399602100103>.
- Lamont, M. 2009. *How Professors Think: Inside the Curious World of Academic Judgment*. Cambridge, Massachusetts / London, England: Harvard University Press.
- Larivière, V., C. Ni, Y. Gingras, B. Cronin and C. R. Sugimoto. 2013. 'Bibliometrics: Global Gender Disparities in Science.' *Nature* 504 (7479): 211–213, <http://doi.org/10.1038/504211a>
- Leslie, S. J., A. Cimpian, M. Meyer and E. Freeland. 2015. 'Expectations of Brilliance Underlie Gender Distributions across Academic Disciplines.' *Science* 347 (6219): 262–265, <http://doi.org/10.1126/science.1261375>.
- Linková, M. 2014. 'Unable to Resist: Researchers' Responses to Research Assessment in the Czech Republic.' *Human Affairs* 24 (1): 78–88, <http://doi.org/10.2478/s13374-014-0207-z>.
- Linková, M. 2014. *Disciplining Science: The Impacts of Shifting Governmentality Regimes on Academic Research in the Natural Sciences in the Czech Republic*. Prague: Charles University in Prague, Faculty of Social Sciences.
- Linková, M. 2009. 'Ne každý úspěch se počítá: Excellence a genderování vědecké dráhy v přírodních vědách.' Pp. 72–99 in *Akademické poznávání, vykazování a podnikání. Etnografie měnící se české vědy*, edited by T. Stöckelová. Prague: Sociologické nakladatelství (SLON).
- Linková, M., K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. 2013. *Nejisté vyhlídky: proměny vědecké profese z genderové perspektivy*. Prague: Sociologické nakladatelství (SLON).
- Linková, M. and T. Stöckelová. 2012. 'Public Accountability and the Politicization of Science: The Peculiar Journey of Czech Research Assessment.' *Science and Public Policy* 39 (5): 618–629, <http://doi.org/10.1093/scipol/scs039>.

- Maliniak, D., R. Powers and B. F. Walter. 2013. 'The Gender Citation Gap in International Relations.' *International Organization* 67 (04): 889–922, <http://doi.org/10.1017/S0020818313000209>.
- Marchant, A., A. Bhattacharya and M. Carnes. 2007. 'Can the Language of Tenure Criteria Influence Women's Academic Advancement?' *Journal of Women's Health* 16 (7): 998–1003, <http://doi.org/10.1089/jwh.2007.0348>.
- Matonoňa, J. 2009. 'Nejistá půda: Diskurzivní terén českých vědních politik a vědeckého provozu.' Pp. 149–177 in *Ročníka katedry genderových studií FHS UK v Praze 2007–2008*, edited by B. Knotková-Čapková. Prague: Katedra genderových studií FHS UK Praha.
- Metcalf, A. and S. Slaughter. 2008. 'The Differential Effects of Academic Capitalism on Women in the Academy.' In *Unfinished Agendas: New and Continuing Gender Challenges in Higher Education*, edited by J. Glazer-Raymo. Johns Hopkins University Press.
- Milkman, K. L., M. Akinola and D. Chugh. 2012. 'Heterogeneity in Discrimination?: A Field Experiment.' *SSRN Electronic Journal*, <http://doi.org/10.2139/ssrn.2063742>.
- MORE 2. 2013. *Final Report. Study on Mobility Patterns and Career Paths of Researchers*. European Commission. (<http://ec.europa.eu/euraxess/index.cfm/services/researchPolicies>).
- Morley, L. 2003. *Quality and Power in Higher Education*. Philadelphia: Open University Press.
- Morley, L. 2013. 'The Rules of the Game: Women and the Leaderist Turn in Higher Education.' *Gender and Education* 25 (1): 116–131, <http://doi.org/10.1080/09540253.2012.740888>.
- Moss-Racusin, C. A., J. F. Dovidio, V. L. Brescoll, M. J. Graham and J. Handelsman. 2012. 'Science Faculty's Subtle Gender Biases Favor Male Students.' *Proceedings of the National Academy of Sciences of the United States of America* 109 (41): 16474–9, <http://doi.org/10.1073/pnas.1211286109>.

- Národní kontaktní centrum – gender a věda. 2017. *Postavení žen v české vědě. Monitorovací zpráva za rok 2015*. Prague: Sociologický ústav AV ČR, v.v.i. (<http://www.genderaveda.cz/files/postaveni-zen-v-ceske-vede-2015-zlom-final-web.pdf>).
- Noble, D. 1992. *A World without Women: The Christian Clerical Culture of Western Science*. New York: Alfred A. Knopf.
- Prpić, K. 2002. 'Gender and Productivity Differentials in Science.' *Scientometrics* 55 (1): 27–58, <http://doi.org/10.1023/A:1016046819457>.
- Reuben, E., P. Sapienza and L. Zingales. 2014. 'How Stereotypes Impair Women's Careers in Science.' *Proceedings of the National Academy of Sciences of the United States of America* 111 (12): 4403–8, <http://doi.org/10.1073/pnas.1314788111>.
- Sandberg, S. 2013. *Lean In: Women, Work, and the Will to Lead*. New York: Alfred A. Knopf.
- Shapin, S. and S. Schaffer. 1985. *Leviathan and the Air Pump*. Princeton, New Jersey: Princeton University Press.
- Sheltzer, J. M. and J. C. Smith. 2014. 'Elite Male Faculty in the Life Sciences Employ Fewer Women.' *Proceedings of the National Academy of Sciences of the United States of America* 111 (28): 10107–10112, <http://doi.org/10.1073/pnas.1403334111>.
- Shore, C. 2008. 'Audit Culture and Illiberal Governance: Universities and the Politics of Accountability.' *Anthropological Theory* 8 (3): 278–298, <http://doi.org/10.1177/1463499608093815>.
- Smithson, J. and E. H. Stokoe. 2005. 'Discourses of Work-Life Balance: Negotiating "Genderblind" Terms in Organizations.' *Gender, Work and Organization* 12 (2): 147–168, <http://doi.org/10.1111/j.1468-0432.2005.00267.x>.
- Sonnert, G. and G. Holton. 1995a. *Gender Differences in Science Careers*. New Brunswick, NJ: Rutgers University Press.
- Sonnert, G. and G. Holton. 1995b. *Who Succeeds in Science? The Gender Dimension*. New Brunswick, NJ: Rutgers University Press.
- Steinpreis, R. E., K. A. Anders and D. Ritzke. 1999. 'The Impact of Gender on the Review of the Curricula Vitae of Job Applicants and

- Tenure Candidates: A National Empirical Study.' *Sex Roles* 41 (7–8): 509–528, <http://doi.org/10.1023/A:1018839203698>.
- Topolánek, M. 2007. 'Věda a budoucnost Evropy: od diskuse k účinné politice.' Prague. (http://www.vyzkum.cz/UserFiles/file/Projev_veda_a_vyzkum_final.pdf).
- Trix, F. and C. Psenka. 2003. 'Exploring the Color of Glass: Letters of Recommendation for Female and Male Medical Faculty.' *Discourse & Society* 14 (2): 191–220, <http://doi.org/10.1177/0957926503014002277>.
- Valian, V. 1999. *Why So Slow? The Advancement of Women*. Cambridge and London: MIT Press. (http://books.google.cz/books/about/Why_So_Slow.html?id=qikWHO0JecAC&pgis=1).
- van den Brink, M. and Y. Benschop. 2011. 'Gender Practices in the Construction of Academic Excellence: Sheep with Five Legs.' *Organization* 19 (4): 507–524, <http://doi.org/10.1177/1350508411414293>.
- van den Brink, M. and Y. Benschop. 2012. 'Slaying the Seven-Headed Dragon: The Quest for Gender Change in Academia.' *Gender, Work & Organization* 19 (1): 71–92, <http://doi.org/10.1111/j.1468-0432.2011.00566.x>.
- Vohlídalová, M. 2010. *Akademické duety: o profesním a soukromém životě ve vědě*. Prague: Sociologický ústav AV ČR, v.v.i.
- Vohlídalová, M. 2014. 'Academic Mobility in the Context of Linked Lives.' *Human Affairs* 24 (1): 89–102, <http://doi.org/10.2478/s13374-014-0208-y>.
- Wenneras, C. and A. Wold. 1997. 'Nepotism and Sexism in Peer-review.' *Nature* 387 (6631): 341–343, <http://doi.org/10.1038/387341a0>.
- Williams, J. C. 2005. 'The Glass Ceiling and the Maternal Wall in Academia.' *New Directions for Higher Education* 2005 (130): 91–105, <http://doi.org/10.1002/he.181>.
- Williams, J. C. and R. Dempsey. 2014. *What Works for Women at Work: Four Patterns Working Women Need to Know*. New York: NYU Press.

- Williams, J. C. and N. Segal. 2003. 'Beyond the Maternal Wall: Relief for Family Caregivers Who Are Discriminated Against on the Job.' *Harvard Women's Law Journal* 26: 77–162. (<http://www.law.harvard.edu/students/orgs/jlg/vol26/williams.pdf>).
- Zabusky, S. E. and S. R. Barley. 1996. 'Redefining Success: Ethnographic Observations on the Careers of Technicians.' Pp. 185–214 in *Broken Ladders: Managerial Careers in the New Economy*, edited by P. Osterman. Oxford: Oxford University Press.
- Zinovyeva, N. and M. Bagues. 2010. *Does Gender Matter for Academic Promotion? Evidence from a Randomized Natural Experiment*, No. 2010–15. (<http://papers.ssrn.com/abstract=1618256>).

6. The Work Paths of Women in Science Before 1989 and Today: “In many respects I don’t envy young colleagues”

Marta Vohlídalová

In this chapter I will focus on women’s work paths in science and how their careers have changed across generations—between women who established most of their career before 1989 and early-stage researchers who are building their careers today. Such an inter-generational comparison will make it possible to explore in detail the role that individual, institutional, and structural barriers play in women’s career paths. Their influence is completely neglected in the contemporary, allegedly “neutral” definition of scientific excellence (González Ramos et al. 2015). As Marcela Linková shows in Chapter 5, the current definition of research excellence from which the rules of research careers derive ignore the fact that cultural, institutional, and family factors intervene in the work sphere.

The definition of scientific excellence and rules governing research careers present one of the exemplary manifestations of an “organizational logic” which subtly maintains gender inequalities in organizations (Acker 1990). According to Acker, modern organizations and institutions, including science, are historically shaped and dominated by men who define the rules of the game (Acker 1990). The organizational logic is a system of policies and practices, such as work contracts, managerial directives, and job evaluations. Although they may seem to be gender neutral, they are deeply gendered and contribute to the reproduction of hierarchical gender differences in organizations (Acker 1990: 146). An important part of this organizational logic is the seemingly gender-neutral

notion of the “ideal worker” who lives only for his job, works late, is totally flexible in time and space, and does not have any commitments outside work (Acker 1990: 149). Although this ideal feigns to be gender neutral, it is a model that best corresponds to the traditional model of a male employee whose life centres on lifetime full-time employment while his partner takes care of their children and his personal needs. It is obvious that women could never have fitted this model well (Acker 1990: 149) and it does not correspond to the lived realities of many men, either.

The fairly unfavourable position of women in Czech research can be gleaned from a number of statistics which point to a gap between the proportion of men and women in research, the under-representation of women in higher academic positions, and the minimal proportion of women in decision-making positions. Left aside cannot be material inequalities such as the gender pay gap or differences in the volumes of funding invested in fields and sectors in which men and women predominate, respectively.⁶⁷ While they undoubtedly provide a starting point to study work careers in research, such data cannot take into account the complicated realities and diversity of women in the research population. They do not work with generational specifics, cannot capture generational changes, or explain in what ways various social factors shape work paths (González Ramos et. al. 2015; Mason and Goulden 2004).

The life-course approach appears to be a useful way to study work paths in science, and its key tenet is the notion of *interrelatedness*. At its heart is the interest in the ways various life aspects (such as the work path, family path, and institutional settings) and the course of these paths are influenced by historical circumstances and changes in institutional frameworks (Elder 1994; Krüger 2009; Krüger and Lévy 2001; Macmillan and Copher 2005). Attention is also paid to the ways in which the lives of people affect each other (e.g., partners, parents, and grandparents) (Krüger and Lévy 2001; Moen and Sweet 2002). People’s lives, their work, and family paths are not conceived of as individual projects but as

67 For exact data, see the introductory chapter of this book.

a result of many influences. If the contemporary definition of research excellence and work paths in science excludes all other aspects but individual effort, the life-course perspective brings them back and treats them as crucial factors which affect the ways the career game is played. This approach inspired a number of research studies into the position of women in science (see e.g. Bagilhole and Woodward 1995; Fox, Fonseca and Bao 2011; Fox 2005; Leeman 2010; González Ramos et al. 2015; Bagilhole and White 2013; Mason and Goulden 2004).

In this chapter I analyse the ways in which work paths of women unfolded before 1989 and compare them to the ways careers evolve today. I concentrate on the interactions between scientific work paths, institutional and organizational conditions, and family paths. The life-course perspective is the ideal starting point for grasping changes among generations of women scientists whose lives played out under different social conditions. I argue that the preferred ideal of professional advancement in research is increasingly incompatible with women's lives due to the changes in the research profession and its demands, and settings of other key institutions such as family policy, and that this contradiction continues to increase in time.

In my analysis the focus is always on the perspective, experience, and interpretation of realities by women researchers and how they relate back to their experience. I am aware of the limitations of analysis based on retrospective narratives—life stories have to be understood as actively created and constructed stories with regard to the “here and now”, which may change over time and over the life-course, and in which memory selectivity plays a certain role. However, despite these limitations, these life-stories have a noticeable value (Clausen 1998; McAdams 2005). As Ylijoki shows (Ylijoki and Ursin 2013; Ylijoki 2005, 2010), through narratives people relate to the values of organizations, reflect on their norms and values as well as their ethics. Studying how these narratives change allows us to capture the changing conditions in organizations in which the work paths of women scientists unfold.

I build on a qualitative analysis of in-depth interviews with women researchers of two generations which were carried out within the framework of several research projects of the Centre for Gender and Science research department. The core of the analysis focused on work paths before 1989 are in-depth narrative interviews carried out in the “Women Researchers Under State Socialism” project.⁶⁸ These involved 12 interviews with women researchers in various research disciplines (natural, technical, social sciences, and humanities) who launched and built their research careers long before 1989. At the time of the interviews in 2007, they were mostly between 63 and 75 years of age, and the oldest interviewee was over 90 at the time of the interview. It was a generation born mostly after or shortly before the Second World War. The interviews usually occurred in two waves and took the form of a biographical-narrative interview. In addition, I also used interviews with women researchers of the older generation carried out in the Academic Couples project⁶⁹ which took place in 2010. At the time of the interviews, these researchers were also between 60 and 70 years of age and some were just over 70; in total these comprised four interviews.

To study the work paths of the younger generation of women researchers, I used interviews carried out in the Talents and Talents Seven Years After projects.⁷⁰ These involved 14 interviews carried out with early-stage women researchers in two waves: i) between 2005 and 2007 when they were PhD students or fresh PhD holders, and the majority of them were child-free; and ii) between 2013 and 2014 by when a majority of

68 The project of interviews was carried out within the wider National Contact Center – Women and Science II. Project supported by Ministry of Education, Youth and Sport 2004–2008 under the EUPRO grant programme.

69 The project of interviews was carried out within the wider National Contact Center – Women and Science III project, supported by Ministry of Education, Youth and Sport 2008–2012 under the EUPRO grant programme.

70 The project of interviews was carried out within the wider National Contact Center – Women and Science II and IV projects supported by Ministry of Education, Youth and Sport in the years 2004–2008 and 2012–2015 under the EUPRO grant programme.

them started a family and their career paths have significantly diversified. These early-stage researchers came from various research disciplines including the natural sciences, social sciences, and humanities. In the first round of the interviews they were selected to present successful early-stage women researchers. Thus, it was not a “representative” sample of early-stage women researchers but a group of successful ones. While the first wave of interviews captured the researchers around the age of 30 (most frequently between 25 and 33 years of age), at the time of the second interview they were between 34 and 40, and most of them had a family. Their work positions were highly heterogeneous. I conducted in-depth interviews with a focus on narrative elements.

In this chapter I first outline the historical circumstances which are necessary in order to understand the context in which the work paths unfolded before 1989. This is followed by an analytical part presenting the research practice before 1989 based on the narratives of the older generation and existing literature. In the second part of my analysis I focus on work paths of women researchers before 1989 and today, characterized by the metaphor of shifts in three main areas. I ask the following questions: How did the milestones change that work path structure? How did the dynamics of a research career change? How did the ways and conditions for combining work life and motherhood change?

Cultural and historical context: Historical milestones, the position of women before 1989, and family policy

Historical milestones

Until the Second World War, then-Czechoslovakia was a democratic, industrialized country, and one of the most developed countries in Europe, with a high degree of industrial potential concentrated mainly in the branches of engineering and consumer industries. After the communist coup in 1948 under the rule of the totalitarian regime, Czechoslovakia started to decline both culturally and economically. The totalitarian

regime introduced a large transformation of the state economy⁷¹ and largely eliminated civil and political freedoms (Křížková and Vohlídalová 2009).

Even if there were some attempts to introduce measures leading to the democratization of the country and decentralization of economic power during the Prague Spring in the late 1960s, the plan did not succeed and was followed by a period known as the Normalization in the 1970s, which strengthened the monopoly of the Communist Party (Ulč 1978; Pollert 1999). The Prague Spring refers to the period at the end of the 1960s when an attempt was made to reform the Communist Party from within, towards “communism with a human face”. This movement resulted in the invasion of Czechoslovakia by the Warsaw Pact armies in August 1968 and the subsequent occupation by the Soviet Army that lasted for two decades.

The normalization launched in 1969 aimed to radically suppress democratization tendencies in both the political and economic sphere (Křížková and Vohlídalová 2009) and had a major impact on society as a whole, including the Academy of Sciences and universities. This period tends to be described as a period of moral and scientific decline of promising and relatively democratized science—as a period of fear and careerism (Oates-Indruchová 2008; Šebková 1994; Morkes 2002; Míšková 2002; Štrbáňová and Spížek 2002). Gradually, leading researchers at all institutes of the Academy of Sciences were recalled and at all managerial levels were replaced by people loyal to the regime, often regardless of their qualifications and abilities (Oates-Indruchová 2008; Míšková 2002). Political loyalty was the main criterion for filling any leadership position and the goal was to fill all leadership positions with party members, an effort that was more or less successful. In addition to

71 Under the Soviet influence the focus of the state economy shifted from “modern”, consumer-based light industry to “coal and steel”, based on outdated, centrally-administrated heavy industry (mining, metallurgy, and engineering). The economic decline subsequent to the communist coup in 1948 had a serious impact on personal consumption, leading first to a rationing system and later to a simple lack of goods.

personnel purges in the leadership positions, “inconvenient” researchers were also eliminated. In 1969 large-scale political reviews were launched based on which decisions were made on the continuation or stoppage of membership in the Communist Party and relatedly in the work contract. Many researchers, women and men, were fired. “Political reasons” were at that time a legal reason to terminate a work contract (Míšková 2002). Additionally, research institutes that were considered to be dangerous to the regime were closed down (e.g. the Institute of Sociology and the Institute of Philosophy of the Czech Academy of Sciences), and the number of students in these fields was reduced (Oates-Indruchová 2008; Míšková 2002). Research production was limited by censorship, especially in the humanities and social sciences (Oates-Indruchová 2008). As Šebková states (1994), the situation at universities was more difficult than at the Academy of Sciences at least since 1968, because there was a concern that higher education teachers have a great influence on their students. Academy has thus often acted as a refuge for inconvenient researchers from universities. The process of politicization and later Normalization affected the humanities, and especially social sciences, more strongly (Oates-Indruchová 2008; Míšková 2002).

To frame the analysis of work paths in research, it is also necessary to mention the wider context of the labour market in which the scientific work paths unfolded. The labour “market” in the centrally-planned economy (i.e. before 1989) had some specific features: “...There was a total lack of market competition. From educational planning for future workers to workers’ placement and specified wage tariffs, the state bureaucracy kept the labour force under strict control.” (Večerník 2003: 171) The regulation of occupational choices and labour turnover was centralized and was part of the centrally-planned economy. The pre-1989 labour “market” model was characterized by full employment, ineffective use of human resources, and the preferred model of a single lifetime occupation (Večerník 1998a; Kubat 1963; Barr 2005). Another feature of this system

was wage levelling⁷² (Večerník 1998a, 1998b). Loyalty to the regime and Communist Party membership also played an important role in the system of remuneration and was a key feature of career advancement and filling leadership positions (Křížková and Vohlídalová 2009).

After 1989, with the shift from the state-socialist regime towards democracy and from a centrally-planned economy to a market-based economy, new demands were placed on paid labour. The transformation of the Czech labour market after 1989 was marked by the emergence of unemployment, major reduction of heavy industry, extensive privatization, the creation of small and medium-sized enterprises, the influx of foreign capital, and the collapse of foreign trade oriented toward the East. The gradual economic transformation in the Czech Republic—in contrast to the “big-bang” transformations in some other countries of the former Eastern Bloc—occurred under heavy state regulation leading to “the exit of ‘working retirees’ from the labour market, mass retirement (both regular and early) and a decrease in women’s participation in the labour force” (Večerník 2003: 172). Demands on performance and labour force flexibility intensified (Křížková and Vohlídalová 2009; Večerník 2003).

The social transformation clearly affected research and development. The Academy of Sciences underwent major transformations at the beginning of the 1990s. A number of institutes were closed down, and by 1992 the number of employees was reduced by 4,000 (i.e. 32 %). The budget of the Academy of Sciences was heavily reduced at the beginning of the 1990s. Institutes of the Academy of Sciences were motivated to adapt their behaviour to market principles and become less dependent on state subsidies. Attestation commissions were established, and to control the performance of researchers a temporary 5-year contract became the dominant labour-law relationship (Šebková 1994: 99–102).

72 A noticeable gender wage gap was present at that time (Křížková and Vohlídalová 2009) as well as a gap between wages in different branches of the industry (e.g., the service sector being discriminated in favour of heavy industry and mining, where the wages were much higher than in other branches of the economy).

Position of women in society and the gender culture

To illustrate the social context in which women's work paths unfolded before 1989, it is also necessary to briefly sketch out the role and position of women in society before 1989. The position of women in former Czechoslovakia is captured by a mix of *de iure* equalities and *de facto* inequalities which have changed over time. As B. Havelková argues with respect to the development of the law, women's position can be characterized as the coexistence of public (*de iure*) equality and private (*de facto*) inequality (Havelková 2014: 48). The period before 1989 undoubtedly brought women a number of positive developments and an improvement in their life situation which in many cases occurred faster than in the West (*ibid.*). For example, women experienced massive educational growth (especially since the 1960s), massive entry into the labour market (especially into unskilled professions in the 1950s, and mainly into skilled professions later in the 1970s and 1980s), and they received advanced legal protection in labour-law relations and in the family (e.g., legislation protecting working mothers) (Vohlídalová and Křížková 2009; Havelková 2014). The second half of the 1960s and 1970s in particular brought a number of measures to improve the combination of work life and parenthood, such as the extension of the parental leave, and widely available kindergartens and nurseries (Hašková, Maříková and Uhde 2009). However, inequalities between women and men in society continued and women were discriminated against in many respects. These inequalities were often justified by the natural differences between men and women and the women's maternal role (Havelková 2014; Vohlídalová and Křížková 2009).

Historical data confirm that there was a significant gender pay gap and women had much harder access to leadership and decision-making positions (Fodor 2002; Havelková 1993; Křížková and Vohlídalová 2009), also because they more often than men refused to enter the Communist Party (Havelková 1993). Major inequalities persisted in the private sphere. While the regime focused (especially in the 1950s and at the

beginning of the 1960s) on the equality of men and women in the public sphere (at least in terms of *de iure* measures) (Havelková 2014), equality in the private sphere (division of gender roles in the family) without which equality in the public sphere cannot be achieved, remained on the margins. Zábrodská (2014) showed that women were aware of the discrimination, among other things consisting of the unequal division of labour at home. Especially since the mid-1960s and in the 1970s conservative voices started to appear in public policies, placing emphasis on the role of women as mothers and disputing the idea of women's emancipation through labour market participation (Hašková, Maříková and Uhde 2009).⁷³ In addition to the neoliberal turn and economic doctrine, the year 1989 brought the reinforcement of gender conservatism in Czech society (see also Blanka Nyklová's Chapter 1). As a consequence of economic measures, mothers of small children⁷⁴ (i.e. children up to 3 years of age) were gradually pushed from the labour market and the contradiction between work and care for children started to be emphasized, together with the necessity to choose between one and the other (Křížková and Vohlídalová 2009). The strengthening of gender conservatism was also reflected in family policy reforms.

Family policy and its changes

The Czech Republic was one of the post-communist countries which showed a high degree of women's participation in the labour market before 1989. Today, the reality is somewhat different. Women's employment is slightly below the EU average at 41 % (European Commission,

73 For detailed information on shifts in the gender regimes before 1989 see for example Hašková and Uhde 2009; Havelková and Oates-Indruchová 2014, and others.

74 Reducing the participation of women in the labour market was one of the measures recommended by the World Bank to Eastern European transition economies at that time (Víšek 2006).

2014⁷⁵) and statistics confirm that the Czech Republic ranks at the top among European countries that have the highest impact of parenthood on women's employment. The "employment impact of parenthood indicator" expresses the difference in employment in the age group 20 to 49 among people with children under six years of age and without children. While in 2013 the employment rate of women with children under six years of age in the EU27 was on average 15 percentage points below that of women without children, in the Czech Republic the value has been around 40 percentage points for many years (i.e. one of the highest in Europe) (European Commission, 2014: 2).

The support for motherhood and parenthood most often takes the following form: approximately one month before childbirth and six months after a woman collects maternity support (*peněžitá pomoc v mateřství*), which corresponds to approximately 70 % of her previous average salary and is also covered by social insurance. This support is reserved primarily for women in order to cover the period of health recovery after childbirth, breast-feeding, and intensive care for a newborn.⁷⁶ After this period, a caregiving parent is entitled to a parental allowance. In 2008 a "three-gear" parental leave system was introduced which in theory should allow parents to choose the period of time they want to spend at home with children—they can choose from two-, three-, and four-year variants. After half a year, the caring parent (usually a woman) starts receiving the parental allowance, the amount of which depends on the duration for which it is paid. In total, a parent is entitled to a total amount of CZK 220,000 (approx. EUR 8,140), paid out up to the child's age of four years old. In the most common three-year variant, the monthly amount of this contribution is CZK 7,600 (approx. EUR 281), which represents approximately 29 % of the average monthly wage

75 http://ec.europa.eu/europe2020/pdf/themes/31_labour_market_participation_for_women_02.pdf.

76 This maternity support can be collected by fathers, too, starting six weeks after childbirth. It is provided only to women who have paid health insurance.

in the Czech Republic in 2015. The “three-gear” parental leave reform promised to allow parents to freely choose the length of the parental leave but in reality, the choice (especially the choice of the shortest two-year option, which would be in many cases welcome by young researchers) remains purely hypothetical for many women. In addition to conservative standards, this is primarily due to the unavailability of space in nurseries and kindergartens.

Regarding the share of young children in childcare facilities, the Czech Republic does not fare well and is nowhere near reaching the Barcelona objectives of 90 % of preschool children over three and 33 % of children under three years of age placed in formal care. As regards children younger than three, their coverage through formal care does not reach even 5 % (the EU average is around 26 %); in the case of children aged 3–6 the Czech Republic reached the below-average value of 72 % in 2013 (compared to 82 % in the EU27) (Janta 2014). These low values cannot be compensated for by private babysitting services, which, due to their high costs, are used by only around 1–2 % of households in the Czech Republic (Hašková 2011: 21). The shorter parental leave economically pays off only to women with significantly above-average incomes (Jahoda and Šinkyříková 2011), or those who have grandparents willing to provide intensive care for grandchildren. For many women researchers the shortest variant of the parental allowance is thus unavailable. In view of the increasing number of children aged 3–6 in the population, it is becoming increasingly difficult to place a child over three in a kindergarten. In 2014 almost 60,000 applications to enroll a child in a kindergarten were turned down.⁷⁷ Although the acute lack of space in childcare facilities has been a major problem for many years and the Czech media and other actors regularly report on it, the political will to address the issue in a complex manner is limited, and changes in the system focus on small modifications rather than solutions which would

77 http://zpravy.idnes.cz/zacinaji-zapisy-do-skolek-0yh-/domaci.aspx?c=A140224_170725_domaci_jj.

significantly increase the availability and capacity of these facilities while keeping quality at the centre of attention.

This situation has negative impacts on the opportunities to combine work and parenthood not only in demanding professions such as research. The data show that with more than 25 % of children born after 2000, their mothers stayed at home for more than three years (Hašková 2011). For many women, this is not a voluntary decision (ibid.). In view of the fact that work position protection is guaranteed for three years to mothers caring for a small child, this strategy carries a high risk of subsequent unemployment.

Sources of this can be traced deep into the past (Hašková, Maříková and Uhde 2009). A number of studies carried out in recent years explore the transformation of Czech family policy and describe so-called *refamilialization tendencies* (Hašková 2011, 2007; Saxonberg and Sirovátka 2006; Szelzeva and Polakowski 2008), which are identifiable in Czech family policy since the turn of the 1960s and 1970s (Hašková, Maříková and Uhde 2009). These tendencies were significantly reinforced after 1989 in connection with the social transformation informed by neoliberalism and gender conservatism. *Refamilialization* means that childcare provision is increasingly shifting from public services to families (especially mothers and grandmothers). The share of children using childcare facilities has decreased mainly after 1989 but the time mothers spend at home with their children increased gradually since the 1960s (Hašková 2011: 46). In the new context of the market economy and dramatic changes on the labour market after 1989, refamilialization is linked with growing risks to find employment on the labour market (Hašková, Maříková and Uhde 2009).

Since the mid-1960s, and especially in the 1970s, the “socialist” family policy focused on the gradual extension of the period during which the mother caring for a child could stay at home up to two years of age (in the 1970s) and later up to three years of age (in the mid-1980s) (Hašková, Maříková and Uhde 2009). At the same time, a network of public childcare facilities, both kindergartens and nurseries, was gradually enlarged.

After 1989 the tendency was to cut public expenditures (Hašková, Maříková and Uhde 2009) and to push women and especially mothers of children up to 3 years of age from the labour market (Křížková and Vohlídalová 2009). The gender conservative discourses stress the women's right not to be employed and the socialist project of women's emancipation was subjected to strong criticism.

In the 1990s, the possibility to collect the parental allowance was extended up until the child was four years old. As a result of the radical decline in fertility in the 1990s and in line with a rhetoric which condemned nurseries as a communist relic harmful to children, nurseries closed down on a massive scale (Dudová and Hašková 2010). Between 1990 and 1991 the number of nurseries in the country fell from 1,043 to 486 (Kuchařová and Svobodová 2006: 9), and by 2013 their number fell further to the current 45.⁷⁸ Unlike kindergartens, the reduction of which was not quite as steep (the number of kindergartens dropped from 7,328 in 1990⁷⁹ to 5,085 in 2013–14⁸⁰), the state stopped any form of financial support for nurseries after 1989 (Hašková, Maříková and Uhde 2009).

With these changes in family policy, the actual period during which women remain at home with children was extended. While in the 1970s it was mostly between one and two years and in the 1980s between two and three years, the 1990s saw the stabilization of the three-year parental leave model (Hašková 2011: 43–44).

A mother who stays at home with children full time until they are three has become an almost-universal norm since the late 1980s. Today, the model of a three-year parental leave is the generally accepted standard of the “proper” form of childcare. The public discourse on this issue is controlled by experts (mainly popular psychologists) who emphasize the negative impacts of collective care on child development (for details see

78 Sít' zdravotnických zařízení 2011. ÚZIS ČR, 2012. Available at http://www.vupsv.cz/index.php?p=cze_2a&site=default.

79 Kuchařová and Svobodová (2006).

80 <http://www.msmt.cz/file/33001/download/>.

Saxonberg, Hašková and Mudrák 2012; Dudová and Hašková 2010). The need for peer contact among children under the age of three is disputed, and intensive maternal care for children up to the age of three is constructed as the only proper model of care. Children's interests are framed as conflicting with a mother's economic activity (Dudová and Hašková 2010: 42–44).

Unlike many European countries, the parental leave system in the Czech Republic does not support the sharing of early childcare between parents. While men are entitled to collect financial support for fatherhood and the parental allowance, only a few do so. According to the statistics of the Ministry of Labour and Social Affairs, only 1.8 % of the recipients of the parental allowance in 2013 were fathers. One of the reasons is that with the exception of the first half a year after the birth of a child, parental allowances are not related to income level. From 2018 fathers will be entitled to one week of paid leave after their child is born. However, there is not much support for the greater involvement of fathers in childcare in the Czech Republic. The introduction of one-week paid leave for fathers has been the subject of heated debate which has cast doubt on the need for such a measure.

We can thus summarize that the mix of factors involving unavailable childcare, and a long parental leave supported by the gender conservative discourse and reserved almost exclusively for women does not create conducive conditions for combining the research profession and parenting. The values and assumptions on which the Czech family policy is built—women's extended stay at home after childbirth and intensive maternal care which is not combined with women's economic work activity—are in sharp contrast with the professional demands in research (see Vohlídalová 2013; Linková and Červinková 2013).

Research praxis before 1989 in the narratives of women scientists: Funding, assessment, publication strategies, foreign cooperation, and mobility

Before I address work paths and the change in working conditions in science and research, it is important to introduce the context in which women's work paths unfolded before 1989 and the ways this context differs from the environment in which women build their professional careers today. I will focus on a few main issues which define the space in which careers are built: the research funding system, research assessment and related publication strategies, and foreign cooperation and mobility.

Research funding before 1989

One of the elementary factors that set the conditions for research careers before 1989 was the small pressure on performance and low degree of competition due to the research funding system in place and the absence of research performance assessment. Research funding occurred through five-year research plans which defined which topics research institutions would focus on. These five-year plans also defined which material (i.e., chemicals, equipment, and literature) can be purchased.⁸¹ The fulfilment of these plans was regularly evaluated. Publication activity and other results of work were evaluated, but this was rather formal. The quality of these outputs was not reviewed, and targets were set in such a way that it was not too difficult to meet them:

"I'm definitely not in favour of some state plans, much less some five-year plans, but the fact that there was a program which the institutions put together, that wasn't bad. That there was no one to assess it

81 The material equipment overall was quite modest. Lack of material or chemicals was often dealt with through exchanges among institutes; and lack of machines was often tackled by DIY. Material support and literature was often provided through help from solidarity institutions and individual researchers abroad.

then and that no one assessed the outputs of the individual tasks of the state plans, that's another issue. In reality, even that's not completely true because of course I remember that I was present at the reviews, but of course everyone fulfilled everything, since it could not have been otherwise. But at the Academy the conclusions were done by a totally excellent woman researcher who previously did the basic research state plan, and she was doing a great job of it." (Woman researcher, older generation, natural sciences)

As this quote illustrates, women researchers did not regard these plans unequivocally negatively (especially those who worked in the natural sciences). They were positive about the fact that these plans were often defined relatively widely so that all researchers could fit in with their research topics as well as the fact that these plans supported cooperation between research institutions. Generally defined plans make possible a certain degree of flexibility in the choice of a topic as well as in the direction of research itself. It made it possible to adapt research to how experiments went, which is something targeted research funded through grants which specifically define the research procedure, research questions, and numbers of outputs do not allow in principle. Paradoxically, this provided researchers a relatively high degree of research autonomy at a time of political oppression, at least until 1969.

However, it must be emphasized that this was true especially in the natural and technical sciences. As Libora Oates-Indruchová (2008) argues, these plans played a totally different role in the social sciences and humanities. These fields were regarded by the ruling class as potentially dangerous for the regime, and thus the perception was that they must be regulated, especially after 1969. "The humanities and social sciences were seen as politically important, because they provided interpretations of social (and hence also political) reality that were seen as having the potential to influence public opinion." (Oates-Indruchová 2008: 1767) These fields thus became an object of ideologization and censorship to a much greater degree than the natural sciences, and the research plans

mentioned above contributed to this in large measure (Oates-Indruchová 2008; Šebková 1994). The result was that sociologists, for example, often studied potentially uncontroversial topics such as research methods (Oates-Indruchová 2008; Petrušek 2004).

Research funding through targeted grants, which are the cornerstone of research funding today⁸², was unique before 1989. Only one woman researcher of the older generation mentioned that in 1968 she received a foreign grant from a European research institution. In the narratives of the younger generation of women researchers, winning grant support for research comes to the forefront as a fundamental part of their work and at the same time a condition for research work. Grant funding has become a defining sign of research excellence and *de facto* determines one's ability to carry out any research at all. The issue of getting grants in sharpening competition has been one of the central features of career advancement for the younger women researchers, and their ability to remain in science.

“It’s difficult to work without money. I believe that the system is wrong in that if you don’t have a project, you basically can’t work. As an employee of a research institution you have to seek funding for your work yourself, which is absurd! (...) You can’t do research without a grant, you can’t buy anything, hardly even a pen.” (Woman researcher, younger generation, natural sciences)

In today's context, women researchers of the older generation recalled the research system “without grants”, when it was not necessary to fight for research money or one's employment all the time, with a certain degree of nostalgia, as a period that made it possible to immerse oneself in research and to do relatively free research in a longer-term horizon than the grant

82 For example, in the Czech Academy of Sciences institutional funding dropped from 62 % in 2007 to 35 % in 2013 (AV ČR, 2014). At some departments of higher education institutions, institutional funding covers a mere 20 % of total funding (Dvořáčková et al. 2014: 139). The reduction in funding for the Czech Academy of Sciences started shortly after 1989. Between 1992 and 1993 the Academy's budget fell by approximately 30 % (Šebková 1994: 100).

schemes allow today. Such a form of funding was also linked to a much slower tempo of research work than today. In the system of five-year plans there was no pressure on fast publishing or subordination of the research plan to faster output production. As Ylijoki (2010) shows, the short-term organization of research work which predominates today (both in terms of the length of grant projects or work contracts) clashes with the ideal of long-term concentration and deep immersion in a research topic:

“Because I did not have to report absolutely anything, no project writing and such. I think that if I did not have results in the long run, I would not be given the funds, but we had the results and, of course, the institute had some limit over which it could not go, but we definitely did not plan or did not have to think of a limit on animals, and the only thing we thought about was the limit on chemicals and isotopes. We did not have any grand machines, definitely not, and so the most important thing for us was chemicals and isotopes, which were expensive. I knew that we could consume such and such, I was told that I couldn’t go over a certain sum, but because this was planned a year or two ahead of time, you could plan it; some things you got, some you did not.” (Woman researcher, older generation, natural sciences)

Research assessment and its role before 1989

Although regular evaluation of research plans was performed at research institutions, women researchers of the older generation did not address research assessment much, unlike the women researchers of the younger generation. This attests to the negligible importance attributed to the evaluations in the careers of the older generations compared to the situation today. According to these narratives, the “evaluation” (assessment of five-year research plans) was a procedure that did not have any real impact on the financial remuneration of individuals or the funding of research institutions. As was the case in other sectors, the hierarchy in organizations depended predominantly on indicators other than

performance-based, especially during the period of the Normalization (Oates-Indruchová 2008; Šebková 1994; Míšková 2002; Morkes 2002).

Research performance assessment entered the Czech research environment with the introduction of the Methodology for Assessing the Results of Research and Development in 2004, and at the beginning it only concerned the assessment of support programmes as a whole, and only later the performance of institutions and individuals (Linková and Stöckelová 2012). If women scientists of the older generation encountered assessment it was at a mature stage of their careers, which is in stark contrast to the younger women scientists who have been working in the system since the beginning of their research careers.

In this context, when research assessment did not place significant demands on work performance and was not related to further career advancement, the women scientists constructed a specific scientific identity in their narratives. The interviews with the older generation paint a sharp contrast between the work performance expected from them at the time and how they perceived and approached their work themselves. While on a general level no one expected great performance, they largely understood science as a mission, as work to which they were fully committed and voluntarily devoted themselves, often at the expense of sacrificing their leisure time. They perceived the high professional dedication as a question of their own responsibility and honour, as a consequence of the fact that they enjoyed their work and found satisfaction in it, and not as a necessity how to survive in a competitive environment. In many narratives the sciences come forward in an idealized form, as a mission and never-ending process, as passion and an issue of one's own responsibility and autonomy, and voluntary decision. As Ylijoki (2005) argues, this reflects more on the contemporary problems they encounter in their work and with which they confront their notions of what it means to be a good researcher, rather than on what science was like at that time (such as political persecution, limited material resources etc., which they often mentioned) (Ylijoki 2005):

“I don’t think that we were doing better or worse, but the times were different. In the 1970s the pressure of society on performance was not the same it is today, at least I did not perceive it as such. We were doing the work voluntarily and with love, no pressure was put on us. (...) There was more fun at workplaces. In many respects I don’t envy the young colleagues.” (Woman scientist, older generation, natural sciences)

Although this narrative is partially present in the narratives of the younger generation of women researchers, extreme work performance is becoming a condition for being able to stay in the competitive environment of contemporary science. The narrative of the research profession as a responsibility and passion is often supplemented with narratives that accentuate the role of the increasing competitiveness of academia. The performance of the research profession has ceased to be linked merely to one’s own consciousness and conscience; attention is turned to evaluation criteria that must be met (e.g. number of publications, fellowships abroad, grant funding, completing habilitation for associate professorship by a given deadline, etc.).

Publishing

Today, scientific publications play a key role in research assessment. What role did they play before 1989? Unlike common ideas about the isolation of Czechoslovak science at that time, it was common and self-evident to publish in English in quality foreign journals according to the statements of the older generation researchers. This was especially true for those who worked at institutes employing researchers with international experience or those who maintained contacts with foreign institutes (e.g. those who worked at the biomedical institutes of the Academy of Sciences). Publishing abroad was especially common in the 1960s, since 1969 the ability to publish abroad deteriorated (see also for example Štrbáňová and Spížek 2002). At that time, the interest turned to the Soviet Union and publishing within the Eastern Block was prioritized. Publishing

before 1989 went through an administrative process of approval (ibid). Manuscripts were approved by a superior, but this approval process (especially in the 1960s) was more or less a formality.

“In the 1960s there was no problem in the natural sciences, there were no barriers to publish in foreign journals. When we wanted to send something to a foreign journal, we went through an approval procedure, the head of the department read the piece and said ok, send it out, and we sent it out. And it was either accepted or not, so the barrier was on the side of the journal, if the journal considered the work to be good enough to accept it. Here, it was not the way it was in the social science disciplines where it was not possible to publish in the West, in the 1960s there were no obstacles for us at all.” (Woman scientist, older generation, natural sciences)

It turns out that at a time when great emphasis was placed on the knowledge of Russian, the knowledge of English was surprisingly not a major problem either. According to the narratives, self-help groups were established at the institutes where people taught each other, and at many institutes in the natural sciences there were people who had experience from abroad. Even before 1989 English was considered to be the main communication language of the scientific community, at least in the natural sciences.

“It wasn’t unique for natural scientists [to speak English]. I would say that an absolute majority of my colleagues could make themselves understood in English. Firstly, in the 1960s almost everyone travelled abroad and those who could not speak English before, learned then because in a year even the biggest dummy was able to learn. An absolute majority of my colleagues knew English quite well. It was more of an exception among social scientists, but natural scientists overall knew English quite well.” (Woman scientist, older generation, natural sciences)

The situation was different in the social sciences and humanities, where publishing occurred mostly in Czechoslovak journals; the ability to publish was, to a large extent, politically contingent, especially during the normalization. As Oates-Indruchová (2008) states, directives were issued for editors. They were forced to reject texts by authors who were considered to be politically unreliable. One of the women scientists discussed in the interview what this looked like and how they coped with it. She sent her texts abroad and tried to publish under various pseudonyms:

“They kept telling me: it doesn’t fit in. And I, idiot, kept saying: I will revise. Before I understood that it’s my name. The same people then told me that I could not write. But that was the normalization, and they were afraid. And they still feel bad about it today. But I did publish, just under another name. Of course, 90 % of people in my situation, they could not publish a word. But there were people who managed to find ways to publish. I had dozens of articles published in foreign journals under different names. Comments, policy, etc. (...) So I didn’t have this problem, I was at the source. In contrast, it is much more difficult to publish abroad today. First I have to have a text translated because my skills are not good enough to write. So I have to pay for it and then I have to find a place where to publish it. I couldn’t care less today. But back then, when it was a meaningful piece, it was published in dozens of journals.” (Woman scientist, older generation, social sciences)

The dimension of competition, so strong today, was missing in the process of publishing. Lists of publications were not assessed, no rankings of employees according to publication activity were published, and no one had any idea whether their work was successful and whether it was cited at all. Citations were not monitored:

“After 1989 we were perhaps some of the first to prepare a list of publications. This was not done before, and we checked the citations. Back then I never followed the citations of my work and only in 1989

I could see how my work had been cited. I did not think of that at all.”
(*Woman scientist, older generation, natural sciences*)

The narratives of the older generation point to the importance they attribute to publishing a scientific text. Publishing was described as a consequence of “creative pressure”, as a need to share the results of one’s research with the public regardless of the benefits or rewards following from it (as in the case of scientists who published their work abroad without the knowledge of their superiors or those who published under pseudonyms). Such work could hardly be presented as part of fulfilling the research plans. Publishing was described as a voluntary decision, as a question of responsibility toward one’s work and the need to inform colleagues abroad about research results.

Such a concept of scientific publishing clashes in the narratives of the younger generation, with the conditions and assessment systems today, and with the growing pressure on publication performance and competitiveness. In these narratives, publishing is often described as an obligatory activity which must be shown to the employer or the grant provider rather than something that stems from the need to share the results of one’s work:

“Of course we are pushed to publish as much as we can. I generally try to explain that publications are good but it’s good to have them when you accomplish something physically. In my opinion it makes no sense to do something just to get it published. I always strive to achieve some deeper meaning when I work on something. The second thing is that now pressure is put on impact factor publications. But that’s a long-distance run. Not only do you have to have quality output but you also have to have the dexterity to get it published in such a journal. And to be frank, I am in favour of doing things that are useful more than getting them published somewhere.” (*Woman scientist, younger generation, technical sciences*)

Foreign mobility and international cooperation before 1989

The period before 1989 is often described as one that did not allow any contact with foreign research institutions or travelling to the West. Opportunities to travel changed over time (see also for example Štrbáňová and Spížek 2002). The women scientists interviewed often discussed the period in these terms, too; it was frequently their first and spontaneous reaction to a question concerning academic mobility under socialism. The interviews, however, show that the reality was much more varied. As it turns out, many scientists went on a fellowship abroad before 1989. This discrepancy is well illustrated in the following quote:

Researcher: But who could go to conferences and on fellowships? There were no fellowships.

Interviewer: There were many in the natural sciences.

Researcher: In the 1960s before the Prague Spring, that's possible. 1962 to 1967 there were fellowships, that's true. I was in Heidelberg and then at a centre in Switzerland. In my case it was in 1967–68. (Woman scientist, older generation, social sciences)

Although trips abroad were quite common, travelling, especially to the West, meant the necessity to overcome a whole range of obstacles. The researchers mentioned that someone had to vouch for them (primarily their employer), and the risk was considered whether they would emigrate. This is related to how academic mobility was organized in terms of families. It was not common for people to travel abroad as a family. It was generally required that a person leave his or her children and partner behind—as a guarantee that he or she would not stay abroad permanently.

People who went to the West behind the “Iron Curtain” were subject to strict control. Some women researchers who went abroad after 1948 were contacted by the State Secret Police. Several of them talked about the police forcing them to cooperate (i.e. inform on Czechoslovak countrymen and women who emigrated abroad, or to monitor contacts of

their colleagues with people abroad and potentially with “links hostile to the regime”) or that they were followed when they were abroad. A key role was also played by research institutions which had the power to soften the clashes with the governmental nomenclature. The ability to go abroad thus largely reflected the position of a researcher at the research institution and whether they were able to negotiate support from the leadership.

Another obstacle consisted in the necessity to obtain a foreign exchange permit (i.e. the right to buy a certain amount of foreign currency because it was impossible to buy foreign currency legally any other way), which was usually very small and was not enough to cover the basic costs related to the trip abroad to a conference or a fellowship. In this respect, the almost surprisingly-high degree of solidarity of “rich Western” research institutes with scientists from “the poor East” was of key importance. In view of the lack of funds, the ability to travel was mostly contingent upon the researcher being invited by someone from abroad and having the living costs or salary covered because the per diem provided to travel abroad was so low that, as one of the women researchers stated: “...It would not be enough to get a cab from the airport“. It was not exceptional for researchers to be offered paid positions abroad or to be invited to speak at conferences because this made it possible to cover the travel and living costs. As came out from the narratives of many of the women researchers of the older generation, there was no competition for fellowships as is often the case today (Vohlídalová and Červinková 2012); rather, the women researchers were contacted with an offer from abroad through international networks or the networks of their superiors.

The narratives show that despite many obstacles, academic mobility was possible especially between 1945 and 1948, before the communist coup. Another period when a large majority of women scientists in the sample could travel was during the political thawing in the 1960s, and the political regime loosened a little again in the second half of the 1980s. The 1970s are discussed as a breaking point (specifically 1969) when the ability to travel was severely curbed and became available almost

exclusively to “politically-reliable individuals”, people who were members of the Communist Party and political cadres. In the periods that allowed travel, women scientists regularly went abroad, including to Western countries—in our study researchers had experiences from the USA, Australia, the Netherlands, Western Germany, the United Kingdom, France, Italy and many other countries. In addition to these, exchanges were also lively with the socialist countries—people went on fellowships in Moscow and the USSR in general, but communication was maintained with countries such as Poland and Hungary, too. These contacts were developed especially during the normalization and particularly by those who were not allowed to travel to the West. It was not exceptional for people to have had contacts with the most prestigious institutions such as the National Institutes of Health, Harvard University, University of Oxford, Heidelberg University, or Columbia University. Some women researchers surprisingly talked about mobility as something that was totally common.

Foreign mobility took various forms—from short-term trips to conferences to fellowships lasting several months or even several years, or entire doctoral studies. Foreign mobility played a crucial role under socialism. At a time without electronic communication, without electronic databases of foreign journals, and a lack and censorship of scientific literature in Czechoslovak libraries, mobility served to gain information about what was happening in their field in the world. In the narratives of the older generation, mobility is discussed as a way out from intellectual isolation:

“You know, for researchers, it is very important to have contact with the whole world. At that time, it was super important because there was no Internet. Journals did not come here. So you had to write requests for offprints all the time. So this was the source of information.”
(*Woman scientist, older generation, natural sciences*)

International cooperation was also maintained through visits of foreign researchers in Czechoslovakia. As some of the women researchers in the

natural sciences stated, foreign researchers came to work with outstanding researchers with international repute at the research institutes here—who mostly suffered at the local research institutes because the Academy of Sciences needed to report at least a minimal number of research results (Míšková 2002). One of the researchers interviewed organized a large and important scientific congress in Prague at the beginning of the 1960s, which attracted many researchers from around the world. Another spoke about preparing a paper together with colleagues from abroad. But a meaningful research career could be built, even in the natural sciences, without any experience abroad:

“There were many people who were Jewish and who survived the war in England and studied there. They could speak English perfectly. And when they then entered the Communist Party, they had a green light, too. They were doing perfect science and they were allowed to go abroad. So they constantly travelled somewhere and foreigners came to their labs, whether they were from Russia or from the West. Many foreigners came, which was interesting because we could not go anywhere. So we had contact with these people, who came and stayed for several months. So it was an international environment. At moments it was like now.” (Woman scientist, older generation, natural sciences)

It is clear then that the ability to travel evolved over time, but it is not true that Czechoslovak research was isolated completely from foreign developments before 1989 (especially not in the natural sciences). There were periods when it was easier to travel abroad as there were periods when it was almost impossible. With very few exceptions, most women researchers of the older generation had some experience of mobility. But mobility was not something that was demanded from researchers or upon which career development was contingent; rather it was more of a bonus.

In contrast, today, especially in the natural sciences, mobility is increasingly understood as a necessary and obligatory stage of the work path and is closely linked to notions of research excellence and subsequent

career advancement. The high degree of mobility has become an integral part of the dynamizing research labour market in the Czech Republic (Červinková 2010). For women researchers this may cause problems not only because mobility is accentuated particularly in periods when most people start a family, but also because women in general have less favourable conditions for mobility than men in their private life (Ackers 2004; Leemann 2010; Vohlídalová 2014, 2017 and others). As the chapter in this book reflecting on mobility experience shows, if women do travel they receive less support than men who mostly go away with their partners. In contrast to the period before 1989, limited spatial flexibility can today have major consequences for career advancement (Ackers 2004).

Work paths of women researchers before 1989 and today

Having laid out the context in which research careers unfolded before 1989, in this section I will attend to comparing the work biographies of women of the older and younger generations. I will focus on three key elements in their narratives. Firstly, I will discuss which features structured the narratives about the course of their work path most significantly. Then I will explore the dynamics of their work paths, and lastly I will analyse the conditions for combining work and private lives.

Work path milestones: From historical events to motherhood

Women of the older generation

The basic structuring moment in the narratives of women of the older generation are historical events, changes in political conditions, and their attitudes to the regime and party membership. These aspects were the axis along which the narratives were strongly structured. Their professional life and family paths were closely interrelated with historical events and shifts, and were determined by them.

The first important milestone in the work paths of the older generation is the period of the 1950s during which the research profession experienced a boom in then-Czechoslovakia. In 1953 the new Academy of Sciences was established as a non-university research institute, moulded along the model of the USSR⁸³, which opened up new jobs in the field and new opportunities for young people interested in research. Professional development in science and research opened for women (there was strong pressure for women to enter employment and on their emancipation through participation in the labour market; Křížková and Vohlídalová 2009), although several women researchers of the older generation mentioned that at some institutes women were not regarded with confidence and people in leadership positions had a tendency to prioritize men in hiring. Also, the first doctoral studies programmes were opened at that time.

The period of the 1960s is then described as a period of development, which made it possible to establish contacts with research institutes and universities abroad and build one's scientific and academic career more or less freely. The work paths of some of the women were affected by a large emigration wave in the second half of the 1960s when many people left Czechoslovakia, including researchers and research elites who held leadership positions (Míšková 2002; Oates-Indruchová 2008). This meant work opportunities for the ones who were "ready"—some women in our sample were given an opportunity (though often rather short lived) to assume a leadership position replacing their predecessor. This chance to grow professionally was, however, mostly ended with the onslaught of the normalization in 1969.

A major milestone in the careers of most of the women of the older generation came with the normalization of the 1970s, related to political reviews in 1969 which turned many work paths upside down. Many

83 Higher education was separated from research and development. Teaching that was to be focused more practically was to be covered by higher education institutions, whereas the Academy of Sciences was to focus on science and research.

researchers who refused membership in the Communist Party were found to be unreliable and insufficiently loyal by the regime. They were either relocated to lower positions or were forced to leave their research job or a position at a university and were often placed in unskilled manual labour jobs. Not infrequent were narratives about forced unemployment at a time when officially unemployment did not exist. Employment was mandatory for the population⁸⁴ and work was a state-guaranteed right and obligation. From 1962 until 1989, anyone not working was considered a “sponger”⁸⁵ (a social parasite) under Czechoslovak law and faced a prison sentence of up to three years (Křížková and Vohlídalová 2009), therefore it was necessary to find a solution to this problem: the women researchers interviewed tried to get an employer’s stamp in their ID thanks to the forthcoming attitude of colleagues at the personnel departments or they walked a thin line between legality and illegality.

Several of the researchers decided to resolve the oppressive situation of social normalization by going on maternity leave. Motherhood and parenting were constructed as a safe space in which the women researchers of the older generation were protected from the ideological pressure felt strongly especially in the period of the Normalization (cf. Havelková 1993). In political reviews motherhood was often taken as an excuse, as something that allowed women to pass through a review more easily. According to the narratives, the review committees treated mothers more sensitively than other employees. This confirms findings by Nečasová (2014) that women were not taken equally seriously in the public sphere as men because of motherhood and their maternal role. Women researchers took advantage of this: they often used their parenting duties as an argument why they were not interested in political events or why they could not participate in Communist Party meetings, etc. Their motherhood was accepted, but this does not mean that it was not a source of inequality and especially a limit on access to higher

84 Except for women caring for children.

85 In Czech *příživník*.

positions and decision-making (Nečasová 2014; Fodor 2002). It is clear that political events affected not only work but also family paths.

The third important milestone in the narratives of the older generation of women researchers was the post-revolution period at the beginning of the 1990s when the number of jobs in the Academy of Sciences was starkly reduced and a number of research institutes closed down or restructured. This led some of the women to leave academic research. For others, especially in the natural sciences and particularly those who had international contacts and publications before 1989, their promising careers could finally take off with full force. For many, new opportunities opened and their achievements were finally recognized.

A crucial role in these narratives is occupied by the issue of Communist Party membership and (non)conformity with the regime and official political views. Non-membership (refusal to enter the Party) resulted in many cases in women researchers not being allowed to go to a conference abroad, and not being allowed to become a team leader and advance in the work hierarchy. Party hierarchy and discrimination based on party loyalty come to the fore in the narratives of this group of researchers more strongly and generally overshadowed any other form of disadvantage or power inequality, including gender or parenthood:

“Well, firstly ... you know, I would abandon the word career right away; I did not think for a second that what I was doing was a career. In advance I settled on the role that was assigned to me, not as a woman but as a non-Party member. This is something I would really like to stress strongly. Because when someone asks me if I had any problems as a woman, maybe after 1989, because of course I felt very intensively my limits but these limits were clearly given by the fact that I was not a member of the Party, so for me the word career did not exist.” (Woman, older generation, natural sciences)

The regime structured work paths since the very beginning of the career path. Many women in our sample talked about the fact that they faced problems entering university because of their family background (their

parents were entrepreneurs, MPs for democratic parties or otherwise disloyal to the regime). Enrolment at a university was contingent upon recommendation from the relevant bodies which assessed the political attitudes of parents (Morkes 2002). Because a large portion of the women researchers in our sample came from families who were found to be not fully loyal to the regime, they often had to work after completing secondary school (often in manual jobs) and only after receiving a recommendation from their employer were they allowed to enter university. The nature of the period and its totalitarianism also affected the fields of study: The natural sciences were perceived to be less ideologically muddled than the humanities and social sciences (see also Oates-Indruchová 2008; Míšková 2002).

Women of the younger generation

In the narratives of the younger generation, the axis of great historical events is obviously lacking. This is probably partly due to different life-stages in which the younger and older generations being interviewed are in (while the older generation summed up their lifelong career, the young researchers spoke about approx. the last 10 years). In the narratives of the younger generation, motherhood and its incompatibility with the demands of the research profession play the main role in structuring and influencing academic working paths. Motherhood is depicted in their narratives as the main cause of career breaks or the descent or stagnation of their careers, and in three cases also as the reason for leaving their academic position.

At the time of the first interview most of the early-career women researchers did not have children and were in positions of doctoral and postdoctoral fellows, most of them had a promising career and were among successful individuals in their field. Despite their relatively junior position, they often worked at prestigious labs, headed groups and teams, often had already made their first significant discovery, had a rich publication track, and were recipients of various awards. The second wave of

the interviews shows that clearly the most common career pattern in the early career stage is a stalled career (6 out of 13) and that three women researchers—despite a promising early start—left academic science altogether. Only two researchers managed to grow in career terms and others advanced more slowly.

One of the common elements in the narratives of the women with a stalled career and those who left academic science is that they had small children. Most researchers with stalled careers were still employed at the same institution as at the time of the first interview, but their work position was often de facto lower and they themselves often felt that they were professionally stagnating. Although they often headed teams before going on maternity leave, at the time of the second interview they were regular employees, often in highly unstable positions employed on grant projects, working part-time, and sometimes in jobs with no prospects. If they managed to combine career advancement with parenthood (one case only), it was contingent upon an extremely friendly work arrangement which created good conditions for combining work and parenting (the woman researcher was working at an academic institution abroad) and the full involvement of her partner in childcare (the partner was unemployed and was taking care of the children as the primary carer). These were conditions that were unavailable to most of the women researchers; in most cases in our sample, the women bore the main responsibility for childcare and housework. The unsuitable conditions for combining work and parenthood come out of the narratives as the main reason for leaving academic science.

Under the influence of their own experience, many of them described parenthood as something that is incompatible with career advancement in science a research, which is in contrast with the first interview when they often stated that combining work and parenting would be no problem and that it was only up to one's individual preferences, time organization, and agreement with their partner:

“When I was doing the first interview with your colleague, my children were still small. At that time I received the Oto Wichterle Award

and then I went on maternity leave. I had grand plans—I wanted to return to work quickly, do this and that, submit some grants and work on projects. But in reality it was not that simple. (...) I was really naïve when I thought it would be possible. To find babysitting for one child is not so difficult, but to find it for two children ... (...) And the kids were sick all the time. They kept transferring the illnesses back and forth, it was endless. I could not go to work for two months because someone was sick at home all the time. I did not see that coming! Of course this puts a brake on things because a person wants to work but can't, wants to do some experiments but can't, wants to write some papers and for this you need to fully concentrate, and you can't because you're half home, half at work, running somewhere all the time. Of course, under such conditions it's impossible to advance in your career. I was really taken aback by all of this.” (Woman researcher, younger generation, natural sciences)

“I reached the conclusion that I won't build a big research career in my life. Because you can't build a career with two children, and with the third, it won't be such a huge difference. I told myself that the third child would slow me down for five years, but that it does not have lifelong consequences. Two children are a big commitment. (...) Maybe today I would have the manuscript ready [necessary to qualify for associate professorship] but I have put it off and had a third son. When I'm 50, in work terms it will be totally equal if I have two or three children [laughs].” (Woman researcher, younger generation, social sciences)

“I couldn't imagine that I would be applying for grants or led several projects in parallel with my son, and had students on top of this or travelled to conferences and congresses. At that time [of the first interview] I could imagine this and I had the drive then, I guess, and thought that it could definitely be managed somehow.” (Woman researcher, younger generation, natural sciences)

In the narratives of the older generation of researchers motherhood is not described as something that significantly structured and affected their work path. On the contrary, parenting is described as an episode which did indeed mean some complications in the performance of the research profession, which was demanding, and when they did have to exert all their effort it was manageable in principle and did not have long-term or serious consequences for building a work career in science (see also Linková and Červinková 2013). This is probably related to the fact that the young generation is currently experiencing the problem of work-life balance (11 out of 14 young researchers in the sample currently had preschool-age children to take care of), while for the older generation of women many years have passed since they had to deal with the problem of combining work and care. But it is probably linked as well to changing conditions for work-life balance (such as increasing pressure on work performance, the flexibilization of the academic labour force, and conditions created by social and family policies). This points to the growing incompatibility of the research career and performance of active parenthood across generations.

The dynamics of academic careers: From the dynastic to the dynamic model

Marcela Linková and Alice Červinková discuss the two main models of work paths in science as the *dynastic and dynamic laboratory* (Linková and Červinková 2013). In their ideal forms, *dynastic labs* allow limited career progress and leadership positions become available only with the departure of a previous head; the core of research teams is formed by researchers who are relatively independent and have their own research programme (though it is related to the wider theme of the group). Academic paths are relatively stable and linear (ibid.).

In contrast, work paths in science today are characterized by its dynamism. In the *dynamic lab* it is only the position of the head of the team which is more or less stable; the position of independent researchers

is replaced with circulating postdocs and doctoral fellows who are mobile on the international labour market. Especially in the biomedical and natural sciences in which this model has been fully implemented, a typical work path is such that after completing their PhD people leave “their” institution and go abroad on one or more postdoctoral fellowships, after which they apply for the position of principle investigator (and the head of a lab). This model is characterized by a high degree of mobility, flexibility, and pressure on performance and competition. The degree to which work organization resembles the dynamic lab depends largely on disciplinary specificities. In this pure form the dynamic organization of labs can be found especially in the biosciences and other natural sciences; in many other fields or in universities we tend to find a mix of the dynamic and dynastic organizational features (Linková and Červinková 2013).

Before 1989 the academic work environment to a large degree bore the marks of the dynastic lab. Although the norm of a single job for one’s whole life and long-term work contracts and work stability are the dominant features of work paths before 1989, the situation was far from clear-cut. Due to political events and changes the narratives, especially those of researchers who were not Party members and who were found to be politically unreliable, mention a large degree of fragmentation and especially downward mobility due to the events around 1969 (e.g. transfer to manual work, other types of work below the qualifications level of the person, unemployment, exit from a leadership position). To get to a leadership position or to informally lead a team of people was not available to the older generation of women scientists and so most of them worked in the position of a researcher, including in the biosciences and natural sciences, where such a prospect is no longer available today because these positions are disappearing and are being replaced with the position of doctoral and postdoctoral fellows.⁸⁶

Overall, the work paths of especially those who lost their jobs in the 1970s are very winding. A large portion of people before 1989 were

86 This was true for both men and women.

employed at fixed-term contracts which the regime used to exert pressure to ensure people's loyalty; these fixed-term contracts started to be used after the political reviews in 1969, as Oates-Indruchová (2008) shows. The following quote by a woman researcher illustrates how fixed-term contracts acted as a way to ensure political compliance. Even then, they were a source of work insecurity:

“Well, it fell on the researchers quite hard because when I said that no one was kicked out, it does not mean that there was no moral pressure because all researchers got fixed-term contracts, and so it was hard after 1989 to accept fixed-term contracts again. (...) These contracts were a way to exert pressure. When I said that the researcher worked and had his or her own topic does not mean that they did not have contracts for half a year and so the pressure, it was here, through these fixed-term contracts...” (Woman researcher, older generation, natural sciences)

“...I worked for several years always on contracts that were extended, for two months, then they sent a word they didn't want me. They always sent it through this receptionist who enjoyed it immensely, knowing what kind of a letter she was carrying.” (Woman researcher, older generation, humanities)

In general, the work paths of the older generation of women researchers appear to be more varied and paradoxically less linear than today. For example, it was not the rule for women of the older generation to enrol in a PhD immediately after completing their Master's degrees, but rather they started to study at a moment when they obtained an expert position at a university or at the Academy of Sciences. Their narratives also show that the transition to the research profession or university was not necessarily smooth or taken for granted. A frequently mentioned problem was the lack of positions for graduates. Many of them thus worked outside academia after graduating from university and returned to science only after several years when they managed to succeed in a competition for a position or were given an opportunity. Because of political developments the careers of many of them had a downward tendency.

Despite the great degree of fragmentation of work paths before 1989, the system was permeable. Women researchers who left research or the academic profession due to historical and political events often came back after the situation calmed down, even if they worked outside the research profession for several years. This permeability is clearly visible also in the relatively smooth return after the parental leave. In contrast, the work environment today places much greater pressure on a linear career path without pauses and interruptions, which is becoming increasingly unattainable in the mode of fixed-term contracts and which also poses severe obstacles to caring parents:

“...You finish a doctorate and go on a fellowship during which you have to work very hard in order to get the best publications you can, because based on this your future career will evolve. If you don't get the publications during the first postdoc, you must go on another one and then try to apply for the position of a principal investigator.” (Woman researcher, young generation, natural sciences)

This organization of research, which demands constant concentration on performance and competition at each stage of the career ladder, does not allow any space for lags, stops, or pauses. The issue of potential returns is thus rather problematic.

In the biographies of the young generation of women researchers, the flexibilization of researchers and dynamics of the academic labour market took the form of the expansion of fixed-term contracts for projects or time-limited fellowships without any prospect for extending the work contracts that increasingly replaced more stable work positions. This expansion of fixed-term contracts has significant gender consequences. Women researchers in particular face the problem of how to plan parenthood in a system of short-term contracts and time-limited grants since the system does not count on any breaks. The only real solution, thus, often is termination of a contract and unemployment:

“My boss told me after five years that he would extend my contract only for half a year, and basically he wanted to know what my plans

were and what would happen with me. I knew at that time that I was pregnant, and it was clear to me that this was the end of my postdoc. Not that I was looking for a new job, we wanted a child and I planned to stay at home and not to come back. If I had wanted to come back, I would have been able to stay at home for half a year at most, and it would be terribly short. (...) My boss and I agreed not to extend the contract any longer because I did not want to go back to work immediately after childbirth. It is all too cruel in Switzerland, for my taste. Their maternity leave is only sixteen weeks, and I did not want to come back after such a short time. Since then I have been unemployed, I am at home caring for my son.” (Woman researcher, young generation, natural sciences)

Although this researcher talked about how she would like to return to research, the chance to find a job in a given location has turned out to be very small after a series of unsuccessful applications. Although she was on a five-year fellowship at a prestigious institution abroad, she was very sceptical about returning to a traditional upward work path leading to the position of a team leader due to her existing work experience and parenthood. Therefore, she was striving to get a position in project management or research assistant position. This, however, appears to be a major problem because there are very few such positions in her field. To leave and return to research is not by far as simple as it was described in the narratives of the older generation. A deviation from the linear model in the system of the dynamic lab makes the career today rather vulnerable and threatened. Neither the experience and quality of publications, nor a fellowship at a prestigious institution and talent are a guarantee of a future return to an academic position after a certain pause.

Motherhood in the academic path: From a routine event to abnormality

As concerns motherhood and its combination with a research career, the biographies of the younger and older generations of women researchers

show several important differences: i) a radical change in the timing of parenthood in relation to the academic career; ii) a change in the maternal praxis and the ideology of motherhood; and iii) a change in conditions for combining work and parenthood.

Changes in the timing of motherhood in the work path

The two generations of women researchers differ starkly in the timing of motherhood in relation to the stage of their academic career, and these differences more or less copy general shifts in demographic behaviour of Czech society typical of the postponement of parenthood into higher ages (Hašková 2010). Most women of the older generation had children during their university studies or very shortly after graduation. Having children (and mostly it was more than one) during doctoral studies was almost a rule in the older generation of women researchers. Firstly, PhD studies took place at a higher age and overall women's age at birth was lower. According to Mason and Goulden (2004), parenthood in the early stage of the academic career in the period before an academic position is secured puts women at a disadvantage in their research career. However, it appears that this was not true for the older generation. Motherhood was taken into account in work paths and was accepted as its part (see Linková and Červinková 2013).⁸⁷

The younger generation of women researchers has a tendency to have children when they have at least partially established their work position and consider carefully how to time their parenthood. It appears that at present no period is appropriate for establishing a family, which is also clearly visible in how their parenting plans have changed over the course of time. If they did not have children at the time of the first interview, they often talked about wanting to have children before the age of 30. The second wave of interviews, however, shows that most of them postponed

87 This, nevertheless, does not rule out that women's motherhood put her at a disadvantage especially in access to leadership and decision-making positions.

their parenthood and if they had children, they were born long after the women reached the age of 30. While in the first wave of interviews concerns about childlessness did not appear at all, in the second wave of the interviews this strategy appeared as one of real choices for some women who were still childless. Among those who were still childless, the boundary of “normality” of pregnancy was moving toward the age of 40. Women who mentioned in the first interview that they would like to have more children reduced the number by the time of the second interview. Planning to have children has become for them an almost unsolvable puzzle. As the following quote clearly shows, parenthood is not something that any of the stages of the current academic path in the dynamic lab counts on integrating—it is not suitable during doctoral studies and even less in the case of academic mobility at the postdoctoral level and the grant schemes are not favourable to parenthood either:

“Interviewer: In the interview in 2006 you mentioned that you are thinking of having a child and that you would like to have one by the age of 30.

Woman researcher: Well, this plan did not work out [laughs]. My son will be two years old on Saturday and I will soon be 35 so unfortunately the child came as late as 33. I think the first reason was that I wanted to complete my doctorate first. Then I had an opportunity to cooperate with Mississippi State University. Within the framework of a joint project I went to Puerto Rico four times a year to four tanks to catch fish. This was not something to combine with being pregnant because it was physically difficult work, in the tropics, and with technicians of a totally different mentality than we are used to in Central Europe. (...) And then it came. Unfortunately, it coincided with the postdoctoral projects and my child was born four months after the project started. I am sure you know that the Czech Science Foundation is somewhat unfriendly toward interrupting grant implementation. It does allow interrupting a grant, but at the same time there are so many issues related to it and the grant can be interrupted only twice a year, in the middle and at the end of the year. In this sense it is not very friendly

to young women researchers who are on maternity leave.” (Woman researcher, young generation, natural sciences)

In some stages of the academic career, and especially right after the completion of a doctorate and before going on a postdoctoral fellowship, motherhood becomes taboo. If a woman researcher breaks this “taboo” she can encounter highly hostile reactions from the authorities:

“When I was completing the doctorate, I had been married for two years and so we wanted children but it can’t be easily planned. I told myself I would try a postdoc. At the moment I applied for the postdoc and it started happening, I realized I was pregnant. Therefore I had to refuse the fellowship. I wrote to the head of the lab that I was pregnant and he wrote back a very unpleasant and rude email, saying I was irresponsible and how can I apply for a postdoc when I am pregnant. He sent it in copy to two other people who recommended me. I felt really bad about the whole thing.” (Woman researcher, young generation, natural sciences)

The praxis and ideology of motherhood

The ideology and praxis of motherhood also differ hugely among the older and younger generation of researchers. As for the praxis of parenthood, women researchers of the older generation stayed at home with children for a relatively short period of time compared to today’s situation, thanks to the ability to use nurseries for children under three. Many of them returned to work after approximately six months and mostly stayed at home for about one year, or a maximum of two years—depending on the period when they had children and also on how many children the woman already had (women stayed at home longer especially with their second child). Although the quality of childcare facilities was far from ideal, their availability was incomparably higher than today (Hašková 2006; Saxonberg, Hašková and Mudrak 2012). It also transpires that women researchers employed nannies, although even back then this was

not cheap. After the parental leave women returned to their original position, mostly full-time because part-time work was uncommon.

The behaviour of the younger generation of women researchers differs. A portion of them returned after the maternity leave, i.e. about six months; some of them stayed at home for a longer period (between one and three years). After the parental leave they mostly did not return to work full-time but rather on a small contract which they gradually increased. But part-time work in research faces many problems and prejudices. Such contracts mostly do not cover the actual number of hours worked and so part of it is unpaid. In addition, part-time work elicits some degree of suspicion and it is not accepted as a full-fledged form of employment (Vohlídalová 2013). A major problem that young women researchers encountered was the unavailability of kindergartens and the absence of day-care facilities for children under three. A fast return back to work after having children, as the profession demands, thus becomes an unsolvable problem for many of them.

In addition to the praxis of motherhood, the ideologies of motherhood also changed among the generations—the notions of what constitutes good childcare and how it should be possible to combine childcare with work. The ideology of motherhood in the narratives of the older generation largely reflected the then-rhetoric which emphasized the active participation of women in the labour market. In general, women of the older generation strongly identified with the model of quick reintegration of mothers back into the labour market and a pro-active approach to combining work and care. This identity of a mother active at work was strongly emphasized in the interviews, also by talking about how they were active during maternity leave, how they completed their doctoral (candidate) dissertation, how they wrote textbooks, papers, getting published abroad, etc., and how they returned back to work quickly.

The ideology of motherhood coming through the interviews with the young generation of women researchers tends to correspond to the norm of ‘intensive’ motherhood (Hays 1996). This is not so much because they wished to stay at home for three years or even longer (most women

researchers of the younger generation considered this to be too long, incompatible with the demands of their profession) but especially because of the emphasis on maximum attention paid to childcare, the necessity to adapt fully to the needs of the child, and by prioritizing women's personal childcare compared to institutional care or paid nanny care (which most women researchers of the younger generation disapproved). Last but not least, they had very high standards of care. This can be well gleaned from the next two excerpts:

"I have always planned everything, I knew when, what and how—and now it is impossible. I have unlearned to plan, to organize anything in advance, because whatever I organized, children always re-organized it completely. (...) I try to home school my sons, at least the older one. I look for materials and I often find out that they are not available on the Czech market or are too expensive and so I try to make them myself. (...) My problem is that when my sons fall asleep, I become alive. I go until two or three in the morning, sometimes longer, and it makes me really happy how well it goes. But the mornings are all the worse! Last week I was feeling almost nauseated, so I decided to reduce it and have to stop before three in the morning. It is indeed quite exhausting when you have to get up so often to tend to the younger son (he was only half a year old last week)." (Woman researcher, young generation, technical sciences)

"I want my children to have some programme in the afternoon and me to be the one who takes them to afterschool activities, to be on the playground with them in the afternoon even though they don't need me there, to be the one who is there with them, who covers their back. That's why I don't want to work more. This is how I want to be doing it for the next five years. It is my priority to know that when my children enter puberty and have their interests, do some sport, they don't have any complexes and know that their parents care for them. I want to be the one who is doing homework with them and who knows what is going on." (Woman researcher, younger generation, natural sciences)

It is clear that the combination of intensive motherhood and the contemporary demands of the research profession must unavoidably lead to total exhaustion, which the women researchers also admit. Their narratives are filled with stress, fatigue, and lack of sleep.

Conditions for combining work and parenthood

The issue of adapting the work regime to the needs of caring parents (especially mothers) was solved in the older generation of women researchers generally through an agreement with the boss and largely depended on inter-personal relationships in the research group. The issue of combining work and parenthood was an issue of reaching an agreement (see also Linková and Červinková 2013). As it transpired, women researchers had various experiences in this respect, and it is clear from their statements that not all employers were always forthcoming. What is crucial about this is that the conditions for combining work and parenthood under the given family policy and demands of the research profession could be principally influenced by the work conditions at the concrete institution because it was not subjected to external pressures:

*“...My boss told me, don't be silly, we're people and don't do it, don't do it part-time, you would do yourself harm, you would have less money and they would look down on you here, we'll find a solution. (...)
It's my own fault that instead of having an official part-time job, I struggled like this and tried hard to harmonize it with the nanny and I flew from work to pick up the kid at a nursery or kindergarten.”
(Woman researcher, older generation, natural sciences)*

Among the younger generation the possibilities to organize a combination of work and parenthood at the given workplace are determined by structural factors outside the workplace. A typical example is the funding of research organizations primarily through competitive (and thus short-term) grants which has resulted in the expansion of temporary contracts, non-flexibility of grant schemes, and problems with

interrupting grants on account of parenthood, and linking institutional funding to publication performance. In addition to these aspects women researchers also mentioned a number of additional barriers and issues they encountered. In addition to the burden of the second shift at home (about which women of the older generation also often complained) and lack of daycare facilities, they also talked about limited opportunities for international mobility or the unwillingness of grant evaluators to take into account career breaks:

“When I was submitting a grant in 2010, which was after I came back after maternity leave, one of the reviewers said something along the lines that, ‘A young researcher unlike the other applicants does not have enough publications for the given period and sufficiently high H-index’, which is an index that depends on citations. But I was showing publications for five years, I had five of them, of which one was in a very good journal, and my CV said that I was on two maternity leaves during this period. So this really made me angry because my H-index was not all that low either. I was so frustrated back then because I was telling myself: What was I supposed to have done? Was I supposed to have one child in one arm, the other in the other at my breast and a pipette in my mouth and do pipetting?! I don’t know if anyone even read the CV, I had two maternity leaves in that time. I don’t think so. It felt terribly unjust to me because I felt that I was doing my job well, and given I had two maternity leaves, I accomplished a lot. But it was not enough.” (Woman researcher, young generation, natural sciences)

While it is clear that the team leaders continue to play an important role, their opportunities to influence the work environment for members of their teams is more limited compared to the period before 1989.

Before 1989 the combination of work and parenthood was not easy, either, but how this was reflected in women’s careers differs. While before 1989 motherhood was a regular part of women’s work paths and was a priori taken into account, today motherhood is excluded from work

paths as if it did not exist at all. A normal and manageable event has thus become an abnormality which has no place in a successful scientific career (see for example also Linková and Červinková 2013).

Conclusion

In this chapter I focused on comparing the ways in which work paths of women scientists evolved before 1989 and in what they do today. Such a generational comparison amply illustrates in what ways women's work paths are linked to the institutional arrangements (e.g., functioning of research and research praxis) and other institutions (e.g., family policy) as well as events in private life and historical events. Scholarship today looking into generational changes in research and their perceptions often focus on reflecting current changes on the academic labour market and a shift to New Public Management, and changes in research funding we have been witnessing in the last few decades (e.g., Bagilhole and White 2013; Ylijoki and Ursin 2013; Ylijoki 2005). Not much has been written about the research praxis and work paths in science in the Czech context, and work focusing on the gender context of academic paths are almost completely missing. To study the shifts in women's work paths in the context of a CEE country is interesting not only because we have witnessed a neoliberal turn in research policy in recent years (see Chapter 2 by Linková and Chapter 3 by Šima and Pabian), but also because the entire society underwent a major transformation. The older generation of women researchers thus built their careers in a different regime of research work as well as in different social conditions.

In the first part of the chapter I focused on research practice before 1989, as described, experienced, and interpreted by women researchers of the older generation. It transpires that the then-conditions for research work are described as much more friendly to women's careers and their biographies. The entire system of research work lacks forms of open competition. Its functioning was based on long-term funding which occurred through five-year research plans. Assessment of these plans

tended to be formal in nature. According to the researchers' statements, publication activity was more an issue of one's conscience and responsibility to one's profession; it was motivated primarily by the effort to communicate results of one's research. International mobility was a possibility for many scientists in certain time periods (in the 1960s) but not an obligation that determined their career advancement. In contrast to this is the current situation when competition has entered all these spheres and permeates all research work—from competition for competitively distributed grants which are becoming a precondition to scientific work, through the growing importance of publication performance assessment to *de facto* "obligatory" international academic mobility.

How did women's research careers change in relation to these shifts? Because the two groups of respondents found themselves in different stages of their professional careers, it was not possible to compare the entire course of their work path. In my comparison I therefore focused on several key features that occur in their narratives and which characterize the shifts in the course of their work path.

First, I turned my attention to milestones in their work paths. While the narratives about work biographies of women researchers before 1989 were primarily structured by historical events, the work paths of women researchers today were determined by motherhood. This may be partly linked to the different time frame of the narratives and the difference in the immediacy of the experience of dealing with the problem of work-life balance, but as further analysis indicated it probably reflects changing conditions for work-life balance between generations (such as increasing pressure on work performance, the flexibilization of the academic labour force, and conditions created by social and family policies).

Between the generations the work paths have undergone dynamization. Even before 1989 careers in research were not all that stable and linear, and reflected political shifts—the degree of their fragmentation before 1989 is oftentimes surprising. The main discriminatory criterion was non/membership in the Communist Party. A certain degree of insecurity is visible in the research profession before 1989, but

its sources were different from today. Conspicuous was the degree of permeability which made returns to research possible. This possibility is mostly unavailable in the contemporary research system. Today, too, we can see a high degree of insecurity in work paths. The interruption of a linear path or a temporary leave from academic research, however, all too easily becomes the end to a research career.

No less important are changes in relation to motherhood and the performance of the research profession. It turns out that a normal and manageable part of a woman's work biography has become a sort of abnormality which is discounted and difficult to cope with. This can be seen at several different levels. One of them is the change in the timing of motherhood in the work path—while researchers of the older generation often started their work path at a time when they had one or more children, young scientists today are at a loss as to how to plan parenthood because no phase of the work path is suitable for the establishment of a family. Their narratives show that such an event is just not accepted to occur in the research path. In terms of the ideology and praxis of motherhood, the older generation of researchers placed emphasis on the active combination of work and parenthood, whereas the young generation demonstrates many features of intensive motherhood (Hays 1996). In place are extremely high standards of childcare which further complicate the possibility of combining work and parenthood in the contemporary system. The last area that I focused on was the conditions for combining work and parenthood. In addition to changes in family policies, the role of team leaders has shifted, too. Whereas before it was possible to negotiate the conditions for combining work and parenthood at the workplace and it was largely within the power of the lab leader and bosses to create a friendly work environment, in the current system the possibilities of lab leaders are limited.

If science has traditionally been an institution where men predominate and in which they create the rules of the game (Acker 1990), and in which gender hierarchies are maintained through an organizational logic built on seemingly gender neutral principles, the generational comparison

demonstrates that over the course of time the degree to which women are marginalized through such organizational logic changes. Without having any desire to downplay the burden of (research) life at the time of political oppression or the gender inequalities and discrimination which women undoubtedly encountered before 1989, the comparison of the work paths before 1989 and today attests that with growing pressure on competitiveness, performance, international mobility, and fights for grant money, women are increasingly less able to fit their life biographies into a model that is presented to them as the only one possible, proper, and at first sight gender neutral. In this respect it is impossible not to ask important questions: Are we not losing too many talented women today? Can Czech research afford something like this? And finally, is it in our interest to exclude women from knowledge-making?

Literature

- Acker, J. 1990. 'Hierarchies, Jobs, Bodies: A Theory of Gendered Organizations.' *Gender & Society* 4 (2): 139–158.
- Ackers, L. 2004. 'Managing Relationships in Peripatetic Careers: Scientific Mobility in the European Union.' *Women's Studies International Forum* 27 (3): 189–201, <http://dx.doi.org/10.1016/j.wsif.2004.03.001>.
- Academy of Sciences of the Czech Republic (AV ČR). 2014. *Výroční zpráva o činnosti AV ČR za rok 2014*. Retrieved 30 October 2015 (http://www.cas.cz/miranda2/export/sitesavcr/data.avcr.cz/o_avcr/zakladni_informace/dokumenty/vyrocní_zpravy/archiv_vyrocnich_zprav/2014/pdf/Vyrocní_zpráva_2014_schvalenaAS.pdf?0.745624444021924).
- Bagilhole, B. and H. Woodward. 1995. 'An Occupational Hazard Warning: Academic Life Can Seriously Damage Your Health. An Investigation of Sexual Harassment of Women Academics in a UK University.' *British Journal of Sociology of Education* 16 (1): 37–51.

- Bagilhole, B. and K. White (eds.) 2013. *Generation and Gender in Academia*. Hampshire: Palgrave MacMillan.
- Barr, N. (ed.). 2005. *Labour Markets and Social Policy in Central and Eastern Europe. The Accession and Beyond*. Washington D.C.: The World Bank.
- EC. 2014. *Female Labour Market Participation*. Retrieved 30 October 2015 (http://ec.europa.eu/europe2020/pdf/themes/31_labour_market_participation_for_women_02.pdf).
- Clausen, J. A. 1998. 'Life Reviews and Life Stories.' Pp 189–212 in *Methods of Life Course Research*, edited by J. Z. Giele and G. H. Elder. London: Sage.
- Červinková, A. 2010. 'Postdokovat po světě: genderové politiky akademické mobility.' *Gender, rovné příležitosti, výzkum* 11 (1): 49–59.
- Dudová, R. and H. Hašková. 2010. 'Diskursy, instituce a praxe péče o děti do tří let ve francouzsko-české komparativní perspektivě.' *Gender, rovné příležitosti, výzkum* 12 (2): 36–47.
- Dvořáčková, J. et al. 2014. *Politika a každodennost na českých vysokých školách: Etnografické pohledy na vzdělávání a výzkum*. Prague: Sociologické nakladatelství.
- Elder, G. H. 1994. 'Time, Human Agency, and Social Change: Perspectives on the Life Course.' *Social Psychology Quarterly* 57 (1): 4–15. Retrieved 30 October 2015 (<http://www.jstor.org/stable/10.2307/2786971>).
- Fodor, E. 2002. 'Smiling Women and Fighting Men: The Gender of the Communist Subject in State Socialist Hungary.' *Gender & Society* 16 (2): 240–263.
- Fox, M. F., C. Fonseca and J. Bao. 2011. 'Work and Family Conflict in Academic Science: Patterns and Predictors among Women and Men in Research Universities.' *Social Studies of Science* 41 (5): 715–735, <http://dx.doi.org/10.1177/0306312711417730>.
- Fox, M. F. 2005. 'Gender, Family Characteristics, and Publication Productivity among Scientists.' *Social Studies of Science* 35 (1): 131–150, <http://dx.doi.org/10.1177/0306312705046630>.

- González Ramos, A. M., J. Navarrete Cortés and E. Cabrera Moreno. 2015. 'Dancers in the Dark: Scientific Careers According to a Gender-Blind Model of Promotion'. *Interdisciplinary Science Reviews* 40 (2): 182–203. Retrieved 30 October 2015 (<http://www.maneyonline.com/doi/abs/10.1179/0308018815Z.000000000112>).
- Hašková, H. 2007. 'Doma, v jeslích, nebo ve školce? Rodinná a institucionální péče o předškolní děti v české společnosti mezi lety 1945–2006.' *Gender, rovné příležitosti, výzkum* 8 (2): 15–26.
- Hašková, H., H. Maříková and Z. Uhde. 2009. 'Leaves, Allowances, and Facilities: Childcare Past and Present.' Pp. 77–134 in *Women and Social Citizenship in Czech Society: Continuity and Change*, edited by H. Hašková and Z. Uhde. Prague: Sociologický ústav AV ČR.
- Hašková, H. and Z. Uhde. 2009. *Women and Social Citizenship in Czech Societs: Continuity and Change*. Prague: Sociologický ústav AV ČR.
- Hašková, H. 2011. 'Proměny časování a způsobu návratu matek do zaměstnání.' *Gender, rovné příležitosti, výzkum* 12 (2): 40–52.
- Havelková, B. 2014. 'The Three Stages of Gender in Law!' Pp. 31–56 in *The Politics of Gender Culture under State Socialism. An Expropriated Voice*, edited by H. Havelková and L. Oates-Indruchová. London, NY: Routledge.
- Havelková, H. 1993. 'Patriarchy' in Czech Society.' *Hypatia* 8 (4): 89–96.
- Havelková, H. and L. Oates-Indruchová. 2014. 'Expropriated Voice: Transformations of Gender Culture under State Socialism; Czech Society, 1948–89.' Pp. 3–28 in *The Politics of Gender Culture under State Socialism. An Expropriated Voice*, edited by H. Havelková and L. Oates-Indruchová. London, NY: Routledge.
- Hays, S. 1996. *The Cultural Contradictions of Motherhood*. New Haven, CT: Yale University Press.
- Jahoda, R. and T. Šinkyříková. 2011. *Studie o distribučních dopadech a ekonomickém působení rodičovského příspěvku na české domácnosti*. Prague: VÚPSV, v.v.i.

- Janta, B. 2014. *Caring for Children in Europe*. (<http://europa.eu/epic/studies-reports/docs/rr-554-dg-employment-childcare-brief-v-0-16-final.pdf>).
- Krüger, H. 2009. 'The Life-course Regime: Ambiguities between Interrelatedness and Individualization.' Pp. 159–177 in *The Life Course Reader. Individuals and Societies across Time*, edited by R. Heinz, J. Huinink and A. Weymann. Frankfurt, NY: Campus Verlag.
- Krüger, H. and R. Lévy. 2001. 'Linking Life Courses, Work, and the Family: Theorizing a not so Visible Nexus between Women and Men.' *Canadian Journal of Sociology* 26 (2): 145–166.
- Křížková, A. and M. Vohlídalová. 2009. 'The Labour Market and Work-Life Balance in the Czech Republic in Historical Perspective.' Pp. 35–76 in *Women and Social Citizenship in Czech Society: Continuity and Change*, edited by H. Hašková and Z. Uhde. Prague: Sociologický ústav AV ČR.
- Kubat, D. 1963. 'Social Mobility in Czechoslovakia.' *American Sociological Review* 28 (2): 203–212.
- Kuchařová, V. and K. Svobodová. 2006. *Sít' zařízení denní péče o děti předškolního věku v ČR. [Network of child-care services for pre-school children in the Czech Republic.]* Prague: VÚPSV.
- Leemann, R. J. 2010. 'Gender Inequalities in Transnational Academic Mobility and the Ideal Type of Academic Entrepreneur.' *Discourse: Studies in the Cultural Politics of Education* 31 (5): 605–625, <http://dx.doi.org/10.1080/01596306.2010.516942>.
- Linková, M. and A. Červinková. 2013. 'Vlastní laboratoř: akademické trajektorie a gender v současných biovědách.' *Gender, rovné příležitosti, výzkum* 14 (1): 15–26.
- Linková, M. and T. Stöckelová. 2012. 'Public Accountability and the Politicization of Science: The Peculiar Journey of Czech research assessment.' *Science and Public Policy* 39 (5): 618–629, <http://dx.doi.org/10.1093/scipol/scs039>.

- McAdams, D. P. 2005. 'Studying Lives in Time: A Narrative Approach.' *Advances in Life Course Research* 10: 237–258.
- Míšková, A. 2002. 'Proces tzv. normalizace v Československé akademii věd.' Pp. 149–168 in *Věda v Československu v období normalizace (1970–1975)*. Prague: Výzkumné centrum pro dějiny vědy.
- Morkes, F. 2002. 'Vysoké školy v letech normalizace.' Pp. 61–80 in *Věda v Československu v období normalizace (1970–1975)*. Prague: Výzkumné centrum pro dějiny vědy.
- Macmillan, R. and R. Copher. 2005. 'Families in the Life Course: Interdependency and Pathways Roles and Role Configurations.' *Journal of Marriage and Family* 67 (4): 858–879.
- Mason, M. A. and M. Goulden. 2004. 'Marriage and Baby Blues: Redefining Gender Equity in the Academy.' *The ANNALS of the American Academy of Political and Social Science* 596: 86–103, <http://dx.doi.org/10.1177/0002716204268744>.
- Moen, P. and S. Sweet. 2002. 'Two Careers, One Employer: Couples Working for the Same Corporation.' *Journal of Vocational Behavior* 61 (3): 466–483, <http://dx.doi.org/10.1006/jvbe.2002.1886>.
- Nečasová, D. 2014. 'Women's organizations in the Czech lands, 1948–89: an historical perspective.' Pp. 57–81 in *The Politics of Gender Culture under State Socialism. An expropriated voice*, edited by Havelková, H. and L. Oates-Indruchová. London, NY: Routledge.
- Oates-Indruchová, L. 2008. 'The Limits of Thought?: The Regulatory Framework of Social Sciences and Humanities in Czechoslovakia (1968–1989).' *Europe-Asia Studies* 60 (10): 1767–1782, <http://dx.doi.org/10.1080/09668130802434620>.
- Petrusek, M. 2004. 'Výuka sociologie v čase tání a v časech normalizace (1964–1989) (Kapitola o vztahu vědění a moci, vědy a politiky, reality a mýtotovorby).' *Sociologický časopis/Czech Sociological Review* 40 (5): 597–607.
- Pollert, A. 1999. *Transformation in Work in the New Market Economies of Central Eastern Europe*. London: SAGE.

- Saxonberg, S. and T. Sirovátka. 2006. 'Failing Family Policy in Post-communist Central Europe.' *Journal of Comparative Policy Analysis: Research and Practice* 8 (2): 185–202.
- Saxonberg, S., H. Hašková and J. Mudrák. 2012. *The Development of Czech Childcare Policies*. Prague: Sociologické nakladatelství.
- Szelewa, D. and M. P. Polakowski. 2008. 'Who Cares? Changing Patterns of Childcare in Central and Eastern Europe.' *Journal of European Social Policy* 18 (2): 115–131, <http://dx.doi.org/10.1177/0958928707087589>.
- Šebková, H. 1994. 'Institutions of Higher Education and the Czech Academy of Sciences in the Transitional Period.' *European Journal of Education* 29 (1): 97–107.
- Štrbáňová, S. and J. Spížek. 2002. 'Vzestup a pád Mikrobiologického ústavu ČSAV: šedesátá a sedmdesátá léta.' Pp. 219–257 in *Věda v Československu v období normalizace (1970–1975)*. Prague: Výzkumné centrum pro dějiny vědy.
- Ulč, O. 1978. 'Some Aspects of Czechoslovak Society since 1968.' *Social Forces* 57 (2): 419–435.
- Večerník, J. 1998a. *Zpráva o vývoji české společnosti 1989–1998 [Ten Years of Rebuilding Capitalism: Czech Society after 1989]*. Prague: Academia.
- Večerník, J. 1998b. *Občan a tržní ekonomika. Příjmy, nerovnosti a politické postoje v české společnosti [Citizen and the market economy. Income, inequality and political attitude in the Czech society]*. Prague: Nakladatelství Lidové noviny.
- Večerník, J. 2003. 'Household, Work and Flexibility Survey: Country Contextual Report – Czech Republic.' Pp. 169–198 in *Household, Work and Flexibility Survey: Country Contextual Reports. Research Report No. 2*, edited by C. Wallace. Vienna: The HWF Research Consortium.
- Víšek, P. 2006. 'Rodičovský příspěvek, minulost a budoucnost.' [Parental allowance – history and today]. Paper delivered at the conference Komplexní rodinná politika jako priorota státu aneb je ČR státem

- přátelským k rodině? [Complex family policy as state's priority: Is the Czech Republic family-friendly?]. Prague, 28–29 November 2006. Retrieved 3 March 2009 (<http://www.mpsv.cz/cs/3611>).
- Vohlídalová, M. 2013. 'Vědkyně mezi dvěma mlýnskými kameny: o podmínkách kombinace pracovního života a rodičovství ve vědecké profesi.' Pp. 99–126 in *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy*, edited by M. Linková, K. Cidliňská, H. Tenglerová, M. Vohlídalová and A. Červinková. Prague: Sociologické nakladatelství (SLON).
- Vohlídalová, M. and A. Červinková. 2012. *Vědci a vědkyně v pohybu: o akademické mobilitě*. Sociologický ústav AV ČR. (<http://www.soc.cas.cz/publikace/vedci-vedkyne-v-pohybu-o-akademicke-mobilite>).
- Vohlídalová, M. 2014. 'Academic Mobility in the Context of Linked Lives.' *Human Affairs* 24 (1): 89–102, <http://doi.org/10.2478/s13374-014-0208-y>.
- Vohlídalová, M. 2017. 'Academic Couples, Parenthood and Women's Research Careers.' *European Educational Research Journal* 16 (2–3): 166–182, <http://doi.org/10.1177/1474904116668883>.
- Ylijoki, O. and J. Ursin. 2013. 'The Construction of Academic Identity in the Changes of Finnish Higher Education.' *Studies in Higher Education* 38 (8): 1135–1149.
- Ylijoki, O.-H. 2005. 'Academic nostalgia: A narrative approach to academic work.' *Human Relations* 58 (5): 555–576, <http://dx.doi.org/10.1177/0018726705055963>.
- Ylijoki, O.-H. 2010. 'Future Orientations in Episodic Labour: Short-term Academics As a Case in Point.' *Time & Society* 19 (3), 365–386, <http://dx.doi.org/10.1177/0961463X10356220>.
- Zábrodská, K. 2014. 'Between Femininity and Feminism: Negotiating the Identity of a 'Czech Socialist Woman' in Women's Accounts of State Socialism.' Pp. 109–132 in *The Politics of Gender Culture under State Socialism. An Expropriated Voice*, edited by H. Havelková and L. Oates-Indruchová. London, NY: Routledge.

7. My wife finished activities requiring her presence in the Czech Republic, and moved to stay with me in Switzerland.” Academic Mobility in the Context of Linked Lives

Marta Vohlídalová

Introduction

Mobility is now regarded as a central feature of academic careers by research institutions, policies as well as individual researchers. It is usually discussed in positive terms, both at the policy and individual level. Often regarded as ‘the fifth freedom’ in the EU (together with the movement of people, capital, goods and services), academic mobility is seen as one of the prerequisites for building competitive science, and relatedly for building a knowledge- and innovation-based economy (see for instance, EC 2012a; Blachford and Zhang 2013; Day and Stilgoe 2009).⁸⁸

At the individual level, academic mobility is associated with improving qualifications, developing competences, ‘broadening horizons’ and building personal networks (Ackers, Gill and Guth 2007; Day and Stilgoe 2009). In many fields, mobility has become a necessary precondition for the successful launch of an academic career and for career progression. This trend has slowly started to expand from the natural and technical sciences to the social sciences and humanities (Červinková 2010). Freedom of movement has turned into an obligation to be mobile.

Ackers, Gill and Guth (2007) caution that the current tendency to automatically link academic mobility with quality and excellence can

88 The paper was first published in *Human Affairs* 24 (1), p. 89–102, 2014. I would like to thank editors of *Human Affairs* for their kind permission to reprinting the text.

be highly problematic, neglecting the fact that mobility has its limits and that not every person necessarily meets the high requirements on mobility. The stress on mobility as a precondition for career growth thus a priori excludes those who, for whatever reason, cannot or do not want to be mobile (Ackers 2004; Leemann 2010). Indeed, statistics indicate who is and who is not able to fulfill these growing pressures.

According to a MORE study carried out for the EU (EC 2010), gender is one of the main explanatory factors for differences in international academic mobility, and other studies have confirmed this (for instance, Stalford 2005; Ackers, Gill and Guth 2007; Leemann 2010; Ackers 2004). While in the EU-27 around 59 % of men and 56 % of women in the Higher Education Institutions (HEI sector) have had experience of mobility abroad for at least three months, in the Czech Republic this was true for around 45 % of men but only 33 % of women. In the non-university public research sector, the gender gap is even wider. While it accounts for 7 percentage points in the EU-27 (68 % of men and 61 % of women), in the Czech Republic it is 17 percentage points (70 % of men and 53 % of women), one of the highest gender gaps in Europe (EC 2010). Mobility is most common at the postdoctoral level, a period when people often establish families. According to another EU study (EC 2008: 30) mobility levels peak between the ages of 25 and 40, dropping rapidly after the age of 41. Moreover, mobility is affected by family status and parenthood, especially as regards women. While single men and women have approximately the same rate of mobility, married women are less mobile than married men (Mogu  rou 2004). Similarly, parenthood appears to be a barrier to geographic mobility of female academics in particular (Shauman and Xie 1996; Stalford 2005). It is thus clear that the stress on academic mobility as a precondition for career growth has a significant gender impact.

Despite these findings EU policies generally treat academic mobility as a gender neutral phenomenon and see female and male researchers as a homogenous group of completely free individuals who can voluntarily move from one research institution to another, develop their skills and

knowledge, and pursue better conditions as they present themselves (Day and Stilgoe 2009; EC 2012a; EC 2012b). Policy and strategic documents often fail to give proper attention to barriers or to the potential negative effects of academic mobility on researchers' private lives. As some researchers stress, choices related to mobility and migration are affected by many barriers, and are made within networks, and in social and gender contexts, and cannot be viewed as fully individualized and independent choices (Meyer 2001; Ackers, Gill and Guth 2009; Ackers 2005; Červínková 2010, and others).

The gender impact of academic mobility must also be addressed because gender inequalities in mobility are one of the reasons for women's low representation in higher academic ranks (Ackers 2004). The problem of the "leaky pipeline" is particularly pressing in the Czech Republic. Many women leave academia during the early stages of their careers; only a very small percentage of women who stay in research reach top positions (Kahlert 2010; Tenglerová 2011). While women form the majority of lecturers at Czech higher education institutions, there are few of them in top academic posts: women make up only 23 % of associate and 13 % of full professors in public higher education institutions (Tenglerová 2011).

Women in the Czech Republic also have few opportunities to influence the direction of Czech science and research and higher education institutions (Linková et al. 2013: 33–35). According to European statistics, the Czech Republic fares worst out of 28 countries regarding women's representation on scientific and management boards (EC 2013: 117). While in the EU-27 women make up on average 36 % of these boards, in the Czech Republic it is only 12 %.

Research and statistics show that men and women do not have equal conditions even when they reach academic positions. The Czech Republic has one of the highest gender pay gaps in the EU (in 2011 it was around 16 % in the EU, and as high as 21 % in the Czech Republic (Eurostat 2013)). Among professionals (including researchers) the pay gap is even greater: women receive as little as 70 % compared to men (CSO 2011). These differences can partly be explained by the fact that

contemporary assessment systems neglect activities usually performed by women (such as project administration, working with students, and the daily running of the workplace (RSC 2002)). Another factor is that the research profession prioritizes and recognizes a linear professional path without long breaks, and stresses maximum flexibility (in terms of both time and space), which is more compatible with men's rather than women's life biographies (Bagilhole and Goode 2001; Rhorton 2003; Linková et al. 2013).

In this chapter I focus on the links between academic mobility and the partnership and family lives of female and male researchers who undertook a long-term⁸⁹ fellowship abroad and currently live in the Czech Republic. I ask the following questions: What is the impact of mobility on researchers' partnership lives? How does mobility affect the lives of the partners of mobile researchers? My goal is to explore gender-specific impacts of academic mobility on the partnership lives of researchers and their partners. I therefore do not regard academic mobility as a gender neutral and individualized process contingent solely on an individual's decision. In my chapter I build especially on Červinková (2010) who has studied the gender aspects of mobility in the Czech environment, and other researchers who place the study of academic and work-related mobility in the context of private and family life (for instance, Ackers 2004; Leeman 2010; Green1997).

Method

The qualitative analysis is based on two data sources: i) 16 in-depth interviews with researchers⁹⁰ from various research fields currently living in the Czech Republic on their experience of long-term fellowships abroad in the early stages of their academic careers and within the last ten years. Most of them (10) lived in a partnership (as a married or unmarried

89 A minimum of one year.

90 The sample included 10 women and 6 men aged 31–47 years.

couple) at the time of their fellowship. However, the issue of combining partnership life with mobility also featured in interviews with those who were single (some for example separated because of their stay abroad). The interviews were conducted between 2011 and 2012 and focused solely on mobility abroad and the participants' experiences.⁹¹ ii) In-depth interviews with 16 Czech heterosexual dual-career academic couples⁹² (both married and unmarried) from various fields of research conducted between 2009 and 2010 via joint interview (Allan 1980).⁹³ These interviews focused primarily on combining working and private lives in dual-career couples of academics where academic mobility was "only" one of the topics addressed. Some interviewees received their doctorates abroad but most of them went abroad on a postdoctoral fellowship or during their doctoral studies. A number of researchers⁹⁴ in these studies have multiple experiences of fellowships abroad at various stages in their career path.

The interviews followed a prepared script but responded to prompts by research participants during the interview. A 'comprehensive interview' approach (Kaufmann 2010) was adopted, in which people's opinions and attitudes are organized in several layers from 'surface' proclamations to deeper opinions and thoughts. The researcher's task is to go 'beyond' the surface statements and uncover deeper layers of thoughts and opinions. The researcher therefore strives to deepen participants' narratives, going back to what has already been said or suggested (Kaufmann 2010: 24–25).

91 In addition to the impact of mobility on private and family life, the interviews included many other topics such as paths to mobility abroad, experience in a foreign research environment, and return to the Czech research environment.

92 The sample included people aged 26–75 years.

93 The interviews addressed other topics as well, including collaboration, organization of gender roles in the couple, and advantages and disadvantages of the research profession.

94 In my chapter I focus only on researchers working in the public research sector or public universities.

In my analyses I build on the principles of grounded theory (Strauss and Corbinová 1999; Glaser and Strauss 1967), and specifically its constructivist version (Charmaz 2004). According to the constructivist version of grounded theory, interviews are a reflection of each person's interpretative process (Charmaz 2004). The goal of my analysis was therefore to understand participants' subjective meanings and to study how they arrive at these meanings.

The interviews were transcribed in verbatim and then analysed using Atlas.ti software. In line with the principles of grounded theory, the interviews were coded in several steps from more to less concrete, from codes closely related to the data to more general and more widely understood analytical categories. The basic analytical method involved constant comparison, seeking similarities and differences in data among individual categories, the characteristics, individual codes, participants and other aspects (Glaser and Strauss 1967: 22). In line with the grounded theory approach, theses, hypotheses and typologies were developed inductively.

Theoretical background: Linked lives and coupled careers

Most researchers have a partner; some male but especially women researchers live in dual-career partnerships (Schienbinger et al. 2008; Dubach et al. 2013). According to a US study (Schienbinger et al. 2008, p. 13) 36 % of teachers and researchers at prestigious US universities (40 % of women and 34 % of men) have a partner working in academia whereas 36 % of academics (34 % of women and 37 % of men) have a partner working outside the academic sector. A study on dual-career couples at Swiss universities carried out in 2011 reached similar conclusions (see Dubach et al. 2013). Very often, these partners are highly-qualified professionals.

Referring to their study of dual-career couples and their growing percentage in society, Han and Moen (1999) discuss the need to view the work and family (private) path as interconnected and to take into consideration the contexts of partners' working and family paths. These authors

criticize the ‘myth of separate worlds’, which is based on the presumption that working and family lives are two separate worlds reserved specifically for men and women that do not interlock. In their concept of the ‘coupled career’ they underscore that the professional path cannot be separated from the family path (p. 99). Moreover, they recommend that the couple be considered the main unit of analysis (p. 101). This view of the work path prompts new research questions concerning how the partnership and family situation and work mobility are related or whether and how the work path of one partner affects the work path of the other (p. 101). Partners’ work and family life paths develop in complex ways and impact substantially on each other.

The notion of a ‘coupled career’ is based on the concept of mutually related and interdependent lives (‘linked lives’), which forms the core of life-course approaches (Elder 1994: 6). The concept of linked lives stresses the need to study how individual life paths are affected by other people and in what ways the life paths of men and women are mutually affected (Moen and Sweet 2002: 467). Men’s involvement in the labor market and career development are, in this perspective, contingent upon the fact that their partners assume the larger share of caring for the household and the family and are at the same time willing to suspend their work career (at least during some stage in their life cycle).

H. Krüger and R. Lévy (2001) further develop this life-course perspective by emphasizing the gendered impact of institutional conditions which affect relationships between men and women in the family and the ways in which men’s and women’s lives interweave and adapt to each other. As Krüger (2009) stresses, the way in which partners’ life paths interlink is not determined by fully free decisions and negotiations. Men’s and women’s life paths must be regarded in the context of how institutions operate and the structural barriers which shape our choices and relatedly our life paths (Krüger and Lévy 2001: 155). As Krüger and Lévy (2001) illustrate, these decisions are significantly affected by institutional arrangements, such as the availability and opening hours of childcare facilities, the opening hours of shops, the availability of

elderly care as well as the educational system, which co-determines the educational and relatedly the work paths of men and women. Many of these institutions were established in the past when different (traditional) norms concerning the division of labor between men and women were in place in the family (p. 154). This negatively affects the possibility of changing and eroding gender stereotypes. These institutions co-determine the grammar, or invisible rules, which limit options as regards individual choices, and shape women's and men's life paths differently (p. 154). The pressure institutions place on individuals to live in a certain type of family arrangement and to organize their life in a certain way is not limited only to those who live as a couple but also those who do not (pp. 163–164).

Considering academic mobility through the lens of linked lives (as highlighted by Leeman 2010, for instance) enables us to set this phenomenon in the context of social relations networks and to notice the different gendered impacts which mobility carries for researchers and their partners and families.

Analysis: The impact of mobility on partnership lives

The interviews confirmed clear differences in partnership strategies adopted by men and women in relation to academic mobility, as indicated by previous research (Ackers 2004; Leeman 2010, for instance). While men usually took their partners with them and their partners usually provided support and took care of the children, women usually went on fellowships without their partner. In none of my interviews was a woman researcher accompanied by a male partner who was a tied mover.⁹⁵ According to a US study of academic couples (for instance, Schiebinger et al. 2008) female academics more often than male academics declared that they had sacrificed an interesting job offer which would have required them to move, because of their partners' job (that is, they found

95 According to Mincer (1978) a tied mover is a partner who is forced to move on account of his/her partner's job without having secured an adequate job of their own.

themselves in the position of a tied stayer (Mincer 1978)) (54 % of women compared to 41 % of men).

Living apart is an important strategy academics use in combining two professional carriers with mobility requirements. It was often described as an important “crucible” for the relationship. Several women researchers in the younger generation (i.e. aged up to 40 years) admitted that their international fellowship was one of the factors that led to the break up of their relationship with their partner. On the other hand, a partner’s absence was mentioned in some of the interviews as a good opportunity for long-term academic mobility (see also Červinková 2010).

When partners live apart, typical of migrating female researchers, they may encounter many problems, including feelings of loneliness and the loss of emotional support. A young female natural scientist summarized her feelings:

“The most difficult part was the awareness that there was no one to rely on, to lean on, that there was no one at home waiting. At the beginning it was a tearful time. Every day I wanted to go back.”
(Female natural scientist)

In addition to feelings of loneliness and being uprooted, living apart is also linked to considerable travel costs entailed by visits and the costs of running two separate households. Parents with small children especially face challenges posed by this form of family arrangement, which is especially acute when the destination is not family-friendly and they have to find ways of organizing and funding childcare.

Men who had a partner at the time of their fellowship generally rejected the possibility of living apart, or saw it only as a temporary solution (in a few cases the man moved first, to be followed by his partner several months later).

There were clear differences in how men and women discussed their mobility decisions. Whereas men took it for granted that their partner would come along without having obtained an adequate job, women

emphasized the reasons why their male partners could not accompany them on their fellowship.

When discussing her decision to go to the USA on a one-year post-doctoral fellowship with her three children of school age without her husband, a woman researcher problematized the possibility of her partner coming along, and emphasized the reasons why he could not have come.

“My husband could not have gone with me for a year, left his job here and just disappeared. I don’t think it would have done any good anyway. He is very attached to our home and does not take at all well to being uprooted. We agreed that I would go with the children and he would come to see us two or three times.” (Female natural scientist)

Moving abroad thus meant hiring a Czech nanny, which put pressure on the family budget. They had to pay her travel costs as well as wages and living expenses, which the grant scheme did not take into account.

The main reason a man could not accompany his female partner (in this case because of his job) was evaluated very differently when the partner was a woman. This is indicative of the different value attributed to men’s and women’s professional careers in a couple:

“My wife completed work requiring her presence in the Czech Republic, and moved to stay with me in Switzerland.” (Male natural scientist)

Making decisions about academic mobility in a couple

There are several ways of explaining decisions about partners and families moving and organizing private lives as a consequence of geographic mobility. Economic explanations (Becker et al. 1977; Mincer 1978) presume that the welfare of the family as a whole plays a key role and that both partners consensually follow the economic profit and loss for the family. Other explanations focus on power relations between the partners which is closely linked to the earning capacities of each partner. Decisions about migration in a couple are usually governed by the partner who is the primary breadwinner because s/he has a better negotiating

position (Eby 2001; Green 1997). My findings, however, show that a couple's gender ideology plays a very important role. According to William and Denise Bielby (Bielby and Bielby 1992), gender ideology means that the contributions of each partner are evaluated in terms of work and private life, and this is reflected in whose career is prioritized. This has a major impact on how a couple may react to a potential offer to move to a far-away destination (Bielby and Bielby 1992: 1245). My interviews show that the couple's gender ideology significantly influences how people reorganize their private and partnership lives in the context of academic mobility.

Couples with an egalitarian gender attitude attributed equal weight to the woman's and man's career and both partners also declared equal division of childcare and housework. Men and women living in egalitarian couples usually expected their professional careers to develop equally. If women lowered their career ambitions, it was usually only temporarily, for a relatively short period of time relating to motherhood and particularly the earliest stages. These women usually returned to work shortly after the birth of the child, which was largely made possible by the fact that their partners assumed a significant portion of childcare. When adaptation was required in terms of the partners' careers, there was no automatic expectation that the woman would have to make concessions.

These couples described themselves as 'egalitarian' and there was often a strong egalitarian rhetoric in evidence. The equal division of roles was seen as a matter of fact, necessary and right:

"We both work in the same position, we do the same things, so there's no reason why it couldn't happen [equal division of work and care]. I think it's logical like this." (Male researcher, humanities)

Since a woman's and man's professional careers are usually considered to be equal (and often both the partners found themselves at a similar level of seniority), these couples strive to develop strategies that do not lead to one of them finding him or herself in the position of a tied mover. They try to find ways to circumvent the problem and go on fellowships

together, despite the fact that there are often great difficulties in finding a post for both partners at the same destination.

“We didn’t want the other to go as a family member. We both wanted to have a stipend so that we could both study regularly. We managed to find an institution that accepted us both.” (Male researcher, humanities)

Another egalitarian couple decided to go to a large research centre where the other partner could also find a job, though with the concession that one of them would have to temporarily reduce her/his expectations (for instance, one of them would be temporarily unable to work directly within their specialization). Importantly, they do not expect that the woman would have to be the one to scale down her ambitions, and they plan to take turns.

“I think that the solution would be to go somewhere where my husband would be the one making the primary choice, and then we could go somewhere where I would be the main one choosing the fellowship.” (Female natural scientist)

According to Ackers (2004) and Green (1996), a frequent strategy is to choose large cities, which offer a greater number of relevant posts. However, unless the partners work in different fields or one of them is not a researcher, the situation is difficult to solve in this way.

Although mostly dual-career, couples professing a traditional gender ideology prioritized the man’s career over the woman’s and there was a clear imbalance in terms of the division of care over children and housework. Although the woman had a job of lower status than the man in the majority of couples, there were also couples where the woman had achieved a similar or higher job position than the man.

In many traditional partnerships the woman found herself in a position where she had to adapt her work ambitions to her partner’s career, the family or the children’s needs. The interviews did not enable us to analyse in detail the way gender relations evolved between the partners or their ideas about their professional career advancement over time.

However, interviews with traditional couples where the men had reached a significantly higher level of seniority than their partners showed that the couples often started at the same starting line with similar work plans, ambitions and qualifications. The gap between their careers started to open up with the arrival of children. There are other studies on the division of housework in families (for instance, Bierzová 2006; Maříková and Vohlídalová 2007) which underscore the fact that once the couple have children, even relatively egalitarian gender roles become more traditional. The following young woman researcher, who was at the same level of seniority as her partner before their children were born, described how her husband's career was prioritized due to the need to ensure childcare as if this were automatic and a matter of fact:

“My husband has to have a 100 % [full time job] and I will work as much as possible. As the children gradually grow up, my workload will increase.” (Female natural scientist)

This same researcher mentioned the lack of available childcare and how childcare opening hours did not correspond to the long work hours that are the norm in the academic profession. This is highly illustrative of how institutions co-create gender relations between men and women in families (Krüger and Lévy 2001).

In view of the fact that the man's career was given priority in these couples, women in traditional partnerships most often found themselves in the position of a tied mover which, as became clear, further amplified the differences between his and her career.

The impact of academic mobility on women: women as tied movers

Tied moving and tied staying, experienced more often by women than men, can have a negative impact on professional career development, including research (Loeb 1997: 295; Schienbinger et al. 2008; Eby 2001; Green 1997; Mincer 1978). As the present study also showed, periods of tied moving entail interruptions to the work path and periods of

unemployment, which can have a long-term negative impact on income, and relatedly on pensions (Mincer 1978: 771; Eby 2001). Women in the position of tied moving encountered major obstacles in finding a job once they had moved. Research institutions today often declare that they will assist migrating partners in finding work (Wolf-Wendel et al. 2003). However, my analyses show these forms of assistance, if they existed at all, were considered relatively ineffective, and people usually had to rely on themselves when trying to find a job for their female partner.

In some countries, labor markets are closed and rigid, which is reflected in migrating partners' inability to find employment (for example, Italy and Switzerland); in other countries the ability to work was contingent upon obtaining a special work visa, a lengthy and administratively demanding task (for instance, the USA). The majority of female partners of migrating researchers did not manage to find a paid job in the country of their partners' fellowship corresponding to their qualifications. Female partners of migrating researchers usually had qualifications into which they invested significant effort (almost all had a university education, many of them were PhD holders and had their own professional career), and a number of them assumed they would be able to make use of their abilities in the host country. The sudden loss of meaningful daily fulfillment often resulted in them feeling dissatisfied and frustrated.

"I was glad when we came back to Prague. Now I remember it in good humour but sometimes it was unpleasant ... Unless you have some daily fulfillment, it is difficult." (Female natural scientist)

Several male researchers in my study admitted that their partners' frustration over their inability to find meaningful work was the reason for their deteriorating relationship and conflict. As Mincer shows, dual-income and especially dual-career families forced to move because of one partner's job offer may be more prone to break up (1978, p. 772). Partners' tied moving may thus have negative effects on men as well.

How did women cope with this situation? The interviews indicate that women tried to find any job outside their field and below their

qualifications. They were willing to work on short-term contracts with no prospects, often without a salary. Some were engaged in various (often unpaid) activities outside their field (they organized children's play groups, acted in the theatre) and thus became the main driver of the family's social life abroad. Some (especially researchers) often worked for free in their partners' labs. These were generally highly uncertain and often unpaid short-term positions which they do not even include on their CVs. Consequently, their research career was hampered, and the gap between their careers increased.

"During our three years in the USA [where my husband was doing his fellowship at a prestigious research institute] I spent only three months on a fellowship in a lab. So compared to women, men definitely fare better (...)." (Female natural scientist)

One of the strategies some of the couples adopted to deal with the loss of the woman's life fulfillment was to have a family. Thus, for these trailing female partners, motherhood became an alternative life fulfillment. In most cases, however, this precluded their chance of finding a job.

"My partner couldn't find a job and so we had a sort of a crisis. In the end, we 'solved' it by having a baby. (laughs) We told ourselves that we would have had one at some point anyway and since we were faced with the situation we were in, we might as well try to use it in this way." (Male natural scientist)

This decision usually led to an even greater enforcement of gender inequalities and the traditional division of gender roles in the couple. This occurred despite the fact that at the outset the partners usually expected that the woman would be able to find an adequate job at the destination.

In several cases the interruption of a work path had a severe impact on the professional career of the migrating researchers' partner in the Czech Republic:

"My wife doesn't have any professional experience. I mean, of course she has some work experience but because of our stay in Italy, she doesn't

have any longer-term experience in the field. I think it will be difficult for her.” (Male natural scientist)

Discussion and conclusion

The results of my analyses are consistent with existing research. Academic mobility has a deep and significant impact on the family and partnership lives of migrating researchers. For many of them, especially the partners of migrating researchers, mobility entails making many concessions in their private and family lives.

The impact of academic mobility on people’s partnership lives is highly gendered. Women, in particular, have to cope with the greatest changes in terms of reorganizing their private lives as a consequence of geographic mobility, either as migrating researchers or as partners of migrating researchers. As migrating researchers, women more often than migrating men opt for the strategy of living apart together (they go abroad without their partners). They generally have less emotional support during their fellowship abroad than men, and some of them mentioned that the fellowship abroad was one of the reasons for them breaking up with their partner. As partners of migrating researchers, they more often go abroad as a tied mover, without having an adequate job ensured abroad. This significantly erodes their work path and reinforces the traditional organization of gender roles in these couples.

In terms of linked life and coupled career it appears that a high degree of men’s geographic mobility is contingent upon their partners’ willingness to adapt to the requirements of the men’s careers. Analogically, women researchers’ lower geographic mobility is likely not to be related “only” to their potential motherhood but also to the way men’s and women’s work paths are balanced in these dual-career couples and what concessions men and women expect from their partners. The interviews show that women researchers going on fellowships often do not even admit that their partners could go along and dismiss this option a priori. Conversely, men often assume that their partners will make this concession easily and

without it causing problems. As Krüger and Lévy (2001) state, there is a certain grammar, invisible rules, which dictate how the careers of men and women in couples unfold and which is still rather traditional (the man's career is prioritized over the woman's). According to them, this results from the way in which many social institutions are organized, limiting the options to avoid this stereotype.

While Krüger and Lévy (2001) stress that institutions have a crucial role in maintaining or disturbing the traditional gender order in the society, my findings show that the values and norms a couple hold also play a very important role in overcoming the traditional invisible gender-oriented rules related to how professional and family lives are organized. My analysis has shown that explanations concerning migration decisions in a couple can also be found in the couple's gender ideology. Egalitarian couples who attribute similar importance to both partners' careers often refuse to subject one of the partners to tied moving regardless of whether it is the man or the woman. In contrast, in traditional partnerships where the man's career is considered a priority, women followed their partners almost automatically, without having secured a job. We might hypothesize that men in traditional partnerships tend to be more mobile than women and men in egalitarian couples who take their partner's career into greater consideration.

As Ackers (2005) notes, while a research career places enormous stress on mobility, unlike other professional elites, researchers in post-doctoral positions generally move with minimal assistance and support from research institutions. My study confirmed that they rarely receive effective official help when looking for accommodation, work for their partner, help in integrating the family into the new environment or compensation for the costs of relocating their family to a foreign country. Thus, the costs of academic mobility are largely borne by researchers and their partners (particularly women).

The stories of researchers' female partners who found themselves in the situation of tied moving clearly show how closely partners' work and family paths are intertwined. Their partners' professional development

came at the cost of a steep decline in their own work status, and was sometimes accompanied by frustration and dissatisfaction. The traditional gender order in these couples was reinforced, at least at the level of the economic dependence of women on men. This can, however, be problematic for these families as a whole. As Moen (2005) cautions, work careers are increasingly unstable, and great professional effort or sacrifices do not ensure secure and well-paid positions in the future. This is even more so in science and research where job uncertainty is growing and working conditions are becoming precarious (see for instance Linková et al. 2013). Women thus often become dependent on their partners' jobs while they are often employed on temporary contracts with limited prospects of them being extended.

Literature

- Ackers, L. 2004. 'Managing Relationships in Peripatetic Careers: Scientific Mobility in the European Union.' *Women's Studies International Forum* 27 (3): 189–201.
- Ackers, L. 2005. 'Moving People and Knowledge: Scientific Mobility in the European Union.' *International Migration* 43 (5): 99–131.
- Ackers, L., B. Gill and J. Guth. 2007. *Moving People and Knowledge: Scientific Mobility in an Enlarging European Union. A Summary Report*. European Law and Policy Research Group, Liverpool Law School.
- Allan, G. 1980. 'A Note on Interviewing Spouses Together.' *Journal of Marriage and the Family* 42 (1): 205–210.
- Bagilhole, B. and J. Goode. 2001. 'The Contradiction of the Myth of Individual Merit, and the Reality of a Patriarchal Support System in Academic Careers: A Feminist Investigation.' *The European Journal of Women's Studies* 8 (2): 161–80.
- Bielby, W. and D. Bielby. 1992. 'I Will Follow Him: Family Ties, Gender-role Beliefs, and Reluctance to Relocate for a Better Job.' *American Journal of Sociology* 97 (5): 1241–1267.

- Bierzová, J. 2006. 'Rozdělení domácích prací v rodinách s dětmi.' *Gender, rovné příležitosti, výzkum* 7 (1): 19–26.
- Becker, G., E. M. Landes and R. T. Michael. 1977. 'An Economic Analysis of Marital Instability.' *The Journal of Political Economy* 85 (6): 1141–1187.
- Blachford, D. R. and B. Zhang. 2013. 'Rethinking International Migration of Human Capital and Brain Circulation: The Case of Chinese-Canadian Academics.' *Journal of Studies in International Education* XX (X): 1–21.
- CSO (Czech Statistical Office). 2011. *Zaostřeno na ženy a muže 2011*. Prague: CSO. (http://www.czso.cz/csu/2011edicniplan.nsf/kapitola/1413-11-r_2011-14)
- Červinková, A. 2010. „Postdokovat po světě“: genderové politiky akademické mobility.' *Gender rovné příležitosti, výzkum* 11 (1): 49–59.
- Charmaz, K. 2004. 'Premises, Principles, and Practices in Qualitative Research: Revisiting the Foundations.' *Qualitative Health Research* 14 (7): 976–993.
- Day, N. and J. Stilgoe. 2009. *Knowledge Nomads. Why Science Needs Migrations*. London: Demos.
- Dubach, P, I. Graf, H. Stutz and L. Gardiol. 2013. *Dual-career Couples at Swiss Universities. Evaluation of the Swiss Federal Equal Opportunity at Universities Programme 2008–2011*. Bern: Centre for Labour and Social Policy Studies BASS AG.
- Eby, L. T. 2001. 'The Boundaryless Career Experiences of Mobile Spouses in Dual-earner Marriages.' *Group & Organization Management* 26 (3): 343–368.
- Elder, G. H. 1994. 'Time, Human Agency, and Social Change: Perspectives on the Life Course.' *Social Psychology Quarterly* 57 (1): 4–15.
- European Commission. 2008. *Evidence on the main factors inhibiting mobility and career development of researchers*. Brussels: EC. (http://ec.europa.eu/euraxess/pdf/research_policies/rindicate_final_report_2008_11_june_08_v4.pdf).

- European Commission. 2010. *Study on Mobility Patterns and Career Paths of EU Researchers. Final Report*. Brussels: EC. (http://ec.europa.eu/euraxess/pdf/research_policies/MORE_final_report_final_version.pdf).
- European Commission. 2012a. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A Reinforced European Research Area Partnership for Excellence and Growth*. Brussels: EC.
- European Commission. 2012b. *Researchers' Report 2012*. Brussels: EC. (http://ec.europa.eu/euraxess/pdf/research_policies/121003_The_Researchers_Report_2012_FINAL_REPORT.pdf).
- European Commission. 2013. *She Figures 2012. Gender in Research and Innovation*. Brussels: EC.
- Eurostat. 2013. *Gender Pay Gap in Unadjusted Form (2002–2011)*. (<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdsc340>)
- Glaser, B. G. and A. L. Strauss. 1967. *The Discovery of Grounded Theory. Strategies for Qualitative Research*. London: Weidenfeld and Nicolson.
- Green, A. 1997. 'A Question of Compromise? Case Study Evidence on the Location and Mobility Strategies of Dual Career Households.' *Regional Studies* 31 (7): 641–657.
- Han, S. and Moen, P. 1999. 'Work and Family over Time: A Life Course Approach.' *The Annals of the American Academy* 562: 98–110.
- Kahlert, H. 2010. *Fragile Career Choices: (Gendered) Risks in the Transition from the Dissertation to the Post-doc-phase*. Conference Paper. Conference beyond the Leaky Pipeline. Challenges for Research on Gender and Science.
- Kaufmann, J. C. 2010. *Chápající rozhovor*. Prague: Sociologické nakladatelství (SLON).

- Krüger, H. and R. Lévy. 2001. 'Linking Life Courses, Work, and the Family: Theorizing a Not so Visible Nexus between Women and Men.' *Canadian Journal of Sociology* 26 (2): 145–166.
- Krüger, H. 2009. 'The Life-Course Regime: Ambiguities between Interrelatedness and Individualization.' Pp. 159–177 in *The Life Course Reader. Individuals and Societies across Time*, edited by R. Heinz, J. Huinink and A. Weymann. Frankfurt, NY: Campus Verlag.
- Leemann, R. J. 2010. 'Gender Inequalities in Transnational Academic Mobility and the Ideal Type of Academic Entrepreneur.' *Discourse: Studies in the Cultural Politics of Education* 31 (5): 605–625.
- Linková, M., K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. 2013. *Nejisté vyhlídky: Proměny vědecké profese z genderové perspektivy*, Prague: Sociologické nakladatelství (SLON).
- Loeb, J. W. 1997. 'Programs for Academic Partners: How Well Can They Work?' Pp. 270–289 in *Academic Couples. Problems and Promises*, edited by A. Ferber and J. W. Loeb. Urbana, Chicago: University of Illinois Press.
- Meyer, J. B. 2001. 'Network Approach Versus Brain Drain: Lessons from the Diaspora.' *International Migration* 39 (5): 91–110.
- Mincer, J. 1978. 'Family Migration Decisions.' *The Journal of Political Economy* 86 (5): 749–773.
- Maříková, H. and M. Vohlídalová. 2007. *Trvalá nebo dočasná změna? Uspořádání genderových rolí v rodinách s pečujícími otci*. Prague: SOÚ AV ČR.
- Moen, P. 2005. 'Beyond the Career Mystique: "Time In," "Time Out," and "Second Acts".' *Sociological Forum* 20 (2): 189–208.
- Moen, P. and S. Sweet. 2002. 'Two Careers, One Employer: Couples Working for the Same Corporation.' *Journal of Vocational Behavior* 61 (3): 466–483.
- Moguérou, P. 2004. 'A Double Gender-family Inequality Phenomenon in the International Mobility of Young Researchers.' (<http://128.118.178.162/eps/it/papers/0403/0403003.pdf>).

- Rhoton, L. A. 2003. 'Distancing as a Gendered Barrier: Understanding Women Scientists' Gender Practices.' *Gender & Society* 25 (6): 696–716.
- RSC. 2002. *Recruitment and Retention of Eomen in Academic Chemistry*. (http://www.rsc.org/images/Recruitment%20and%20Retention%20of%20Women%20in%20Academic%20Chemistry_tcm18-12807.pdf).
- Shauman, K. and Y. Xie. 1996. 'Geographic Mobility of Scientists: Sex Differences and Family Constraints.' *Demography* 33 (4): 455–468.
- Schiebinger, L., A. Henderson and S. Gilmartin. 2008. *Dual-career Academic Couples: What Universities Need To Know*. Stanford University. (http://gender.stanford.edu/sites/default/files/DualCareerFinal_0.pdf).
- Stalford, H. 2005. 'Parenting, Care and Mobility in the EU.' *Innovation* 18 (3): 361–380.
- Strauss, A. L. and J. Corbinová. 1999. *Základy kvalitativního výzkumu*. Boskovice: Albert.
- Tenglerová, H. 2011. *Postavení žen v české vědě a aktivity na jejich podporu. Monitorovací zpráva za rok 2010*. Prague: Sociologický ústav AV ČR, v.v.i.
- Wolf-Wendel, L., S. B. Twombly and S. Rice. 2003. *The Two-body Problem*. Baltimore: The Johns Hopkins University Press.

8. Satisfied but not Equal: Working Conditions of Women and Men Faculty in Czech Universities

Kateřina Zábrowská, Jiří Mudrák,
Petr Květon, Kateřina Machovcová,
Marek Blatný, Iva Šolcová

Introduction

Universities⁹⁶ in Western European and Anglophone countries have undergone significant transformation, which has been explored under varied labels such as “neoliberalism”, “managerialism”, or “market-orientation” (Davies, Gottsche and Bansel 2006; Teelken and Deem 2013; Shin and Jung 2014). In contrast to the previously dominant culture of collegiality and professional autonomy, the transformed universities emphasize audit processes, quality assurance, and performance management (Teelken and Deem 2013). Given the profound nature of this shift in university steering, organizational scholars have increasingly begun to investigate its impact on academics and their working conditions. Notably, studies consistently report deterioration in academic work environments and a decline in faculty satisfaction in those countries where market-oriented reforms have been most pronounced, especially in the UK and Australia (Shin and Jung 2014). In the new managerial regimes academics are exposed to excessive workloads, reduced influence over their jobs, high

96 This work was supported by the Czech Science Foundation research grants “Work Environment Quality and Employee Wellbeing in Public Higher Education” (Grant No. GA14-02098S) and “Developing academic excellence: A systemic approach to high achievement in early career academics” (Grant No. GA17-20856S), with the support of RVO 68081740.

levels of job stress, and job insecurity (e.g., Tytherleigh et al. 2005; Winefield et al. 2003). The drivers of these negative effects have been identified in the set of interrelated processes associated with the neoliberalization of higher education, including New Public Management⁹⁷ (Shin and Jung 2014) and managerial culture (Fredman and Doughney 2012); for detailed discussion see Chapters 2 and 3 by M. Linková and K. Šima and P. Pabian.

The changes in academic work environment also involve implications for gender (in)equalities. As discussed throughout this book, empirical studies and statistics suggest that features associated with the market model—such as managerialism, research excellence frameworks, and the use of performance indicators—reproduce and even reinforce male privileges in academia, despite being formally designed to promote transparency and gender equality (Husu 2014). Female academics in the new market economy continue experiencing “a credibility deficit” (Morley 2015: 8), which “intra-acts”⁹⁸ with their relative absence from positions of power, including positions in academic leadership, resource allocation and peer review (*ibid*). Qualitative studies focusing on women’s experience in Western academia show that women academics perceive the current managerialism in universities—and particularly the quantitative measurements of research performance and the increasingly competitive academic culture—as strengthening the masculine orientation of academia (Teelken and Deem 2013; Thomas and Davies 2002). Despite

97 As Chandler, Barry, and Clark (2002) discuss, New Public Management (NPM) can be defined through seven dimensions of change: “[G]reater disaggregation; enhanced competition; the use of management practices drawn from the private sector; greater stress on discipline and parsimony in resource use; a move towards more hands-on management; a concern for more explicit and measurable standards of performance; and attempts to control according to pre-set output measures.” (*ibid*: 1054).

98 In contrast to the term interaction, Karen Barad’s (2007) concept of “intra-action” does not presuppose the existence of separate entities preexisting their interaction, but makes visible the entanglement of individual and institutional practices. Thus, women’s credibility deficit and lack of access to power in the marketized university “emerge through and as part of their entangled intra-relating” (Barad, 2007: ix).

the growing emphasis on gender equality, women academics face a “gap between formal procedures designed to deal with inequalities and the cultures adopted by institutions” (Teelken and Deem 2013: 13) which maintain discriminatory practices.

Importantly, the working conditions in Czech public universities differ from those in the market-oriented higher education systems in advanced Western countries (for a more detailed discussion, see Chapter 3 by K. Šima and P. Pabian). Comparative research on university governance suggests that Czech public universities have so far resisted the neoliberal trend (Dobbins 2011). In contrast to Anglophone countries such as the UK or Australia, which have faced marketization of universities (and the consequent restrictions of academic autonomy) since the 1980s, Czech universities after 1989 gained “almost unprecedented” levels of autonomy (Prudký, Pabian, and Šima 2010: 78) from the state and other external actors. This autonomy developed in response to the state control of universities during the previous communist era (Pesik and Gounko 2011). Thus, the governance at post-1989 Czech universities has been characterized by “an uncompromisingly Humboldtian character, governed by an academic oligarchy, shielded by academic freedom and institutional autonomy” (Pabian, Šima, and Kynčilová 2011: 96). The Humboldtian model—referred to also as academic self-rule (Dobbins and Knill 2011) or the professor-oriented system (Shin and Jung 2014)—is the traditional model of liberal university defined by academic autonomy and collegiality, participation of academics in university governance and decision-making, and a considerable influence of academics in defining their jobs. Recent national research suggests that the Humboldtian model continues to be strongly present in the Czech public university sector (Hündlová, Provázková, and Pabian 2010; Pabian, Šima, and Kynčilová 2011; Záborská et al. 2016).

At the same time, for the past several years, Czech universities have faced consistent pressures to adopt market-oriented features, such as the reduction of state funding combined with the implementation of competitive funding schemes and measures of academic output (for details see

Chapters 2 and 3 by M. Linková and K. Šima and P. Pabian). Similarly to the earlier developments in countries with strong market-oriented academic systems (e.g. Chandler, Barry, and Clark 2002; Kolsaker 2008), Czech faculty have been subjected to increasing pressures for productivity and accountability, and their performance has come under increasing scrutiny. Given these recent changes, the current mode of governance in Czech public universities has been described as a unique mix of the Humboldtian model of academic self-rule combined with emerging elements of the market orientation (Pesik and Gounko 2011).

In this chapter, we therefore approach the mode of governance in Czech public universities as a hybrid system, comprised of varied and potentially conflicting forces. These include the still-strong tradition of the Humboldtian model of academic self-rule, intensifying managerialism, as well as other historically-grounded specificities, such as the prominent role of the state Accreditation Commission (see Dvořáčková et al. 2014). In using the notion of a hybrid academic system, we draw on the body of literature which accentuates the need to avoid simplistic dichotomies between the “old” and “new” university (Dobbins, Knill, and Vögtle 2011; Kolsaker 2008; Linková 2014). Instead, this research draws attention to the multiplicity within each academic system and the fact that elements of previously dominant cultures survive and transform in the new environment (Kolsaker 2008). As Dobbins, Knill, and Vögtle (2011: 668) observe, “...[E]ach national system bears its own nuances due to historical peculiarities and path dependencies, often leading to contradictory development patterns and hybrid forms of governance.”

At present, there are relatively few larger-scale studies that allow estimating how the hybrid governance in Czech public universities is manifested in gender (in)equalities in working conditions of Czech faculty. National reports and statistics are of course available, but these include information only about a limited set of structural inequalities between women and men faculty rather than providing complex data about their working conditions. In recent years, a number of studies have yielded important insights into the changing work lives of Czech

faculty (Dvořáčková et al. 2014; Matějů and Fisher 2009; Prudký, Pabian, and Šima 2010) but gender was not a prominent focus of these studies. To date, the gender dimension of the changing environment in Czech academia has been most extensively explored by gender scholars who have documented the increasing neoliberal transformation of Czech research institutions and its troubling impact on women researchers (apart from other chapters in this book, see also Linková et al. 2013; Linková and Červinková 2013). However, research institutions in the Czech Republic likely provide a different working environment than academic departments in public universities due to differences between these organizations in their missions, funding schemes, organizational structures, and dominant activities (for details see Chapter 2 by M. Linková). The available, though limited, evidence (see Cidlinská and Vohlídalová 2015) indicates that, compared to public universities, research institutions in the Czech Republic may be more prone to neoliberal pressures. Transferring findings concerning work conditions of academics in research institutions to faculty employed primarily in the public university sector could therefore be misleading.

The current study

The purpose of the current study is to provide comprehensive insight into the work conditions of women and men faculty employed at Czech public universities. More specifically, the study uses data from a recent questionnaire survey to analyse whether gender differences are revealed in the current work conditions of women and men faculty and their wellbeing at work. The study reports selected findings regarding women and men faculty's organizational positions, salaries and work content, their perceptions of the organizational climate and psychosocial work environment, and the levels of job satisfaction and stress at work.

Of particular interest for the study is to estimate the extent to which the emerging marketization of Czech academia has (or has not) impacted work lives of Czech women and men faculty. Considering

the fast-changing, hybrid governance described above, it is uncertain to what extent Czech faculty at public universities are exposed to neoliberal pressures, such as job stress or job insecurity. Other chapters in this book (especially Chapters 5 and 6 by M. Linková and M. Vohlídalová) demonstrate the increasing incidence of these pressures among Czech women researchers in research institutes and centres. Are these pressures also experienced by women (and men) faculty in the Czech public university sector?

Research methodology

Data collection

The data for this study were collected via a Web-based questionnaire in November and December 2014. We specifically opted for data collection at the end of a semester in order to ensure that respondents had previously spent several months in direct contact with work environments. The research population for the study was academic staff employed on full-time or part-time contracts at Czech public universities. The potential participants were contacted by email, which presented relevant information about the research and a hyperlink to the questionnaire located on the website of the Institute of Psychology, Czech Academy of Sciences. The list of email addresses was compiled using contact information publicly available on the Internet pages of Czech public universities. In total, the list included more than 20,000 email addresses. According to national statistics, the total number of academic staff employed at Czech public universities in 2013–2014 was 21,545 (Czech Statistical Office 2014⁹⁹) which indicates that we reached almost all university academics. Because the study specifically focused on academic faculty, non-academic

99 <https://www.czso.cz/csu/czso/3-vzdelani1778> (accessed on September 26, 2015).

employees including PhD students¹⁰⁰ were not included. Academics who were employed simultaneously at a public university and another higher education institution or a research institution were invited to participate only if their position at a public university was their primary employment.

Respondents

Of those invited to participate, 4,517 academics responded and completed the questionnaire (23 % response rate). In the final analysis, we excluded all questionnaires with incomplete data. The final effective sample size was 2,229 academic faculty who fully completed the questionnaire. The effective sample thus included 10 % of the researched population, which is comparable to other studies using online surveys among academic faculty (e.g., Kolsaker 2008).

Regarding the demographic structure of the effective sample, men faculty comprised 57.1 % of respondents, and women 42.9 %. All age groups were represented, spanning from 25 to 79 years of age. The most-represented age group was 30–39 years (40.4 %), followed by 40–49 (17.2 %). Regarding academic positions, the most-represented group were assistant professors (42.9 %), while 23.1 % were associate professors or professors. Of respondents, 32.6 % identified themselves as occupying a leadership position, including at the university level (1.2 %), faculty level (5.2 %), departmental level (11.6 %), and research-team level (15.1 %). The majority of respondents—68.2 %—were on full-time contracts, and only 21.3 % worked part-time. Regarding the disciplines, 42.2 % of respondents came from the humanities and social sciences, 33.1 % from the natural sciences, and 22.7 % from the technical sciences.

100 In Czech public universities PhD students receive a state-funded scholarship and as such have the status of students. However, PhD students can also simultaneously have a status of academic staff if they are employed on a paid research or teaching position. Therefore, PhD students with status of academic staff were included in our study. (For more detailed information regarding the status of PhD students and their employment in Czech universities, see Chapter 9 by K. Cidlinská).

Participation in the study was based on self-selection and, as such, the sample is not representative. It is therefore important to compare the characteristics of our sample with the researched population to examine possible biases. The comparison with available national statistics suggests that our sample is fairly comparable in most, but not all features. In terms of gender, national statistics report that women comprised 35.6 % of academic staff at Czech public universities for the years 2013–2014 (Czech Statistical Office 2014¹⁰¹).¹⁰² Compared to the researched population, women were therefore overrepresented in our sample (42.9 %), but the difference was not dramatic (7.3 %). Importantly for our analysis, the sample was highly representative regarding gender composition across academic ranks. According to national statistics, in 2013–2014 women comprised 14.5 % of professors (compared to 16.4 % in our sample), 24.8 % of associate professors (compared to 29.0 % in our sample), and 48.9 % of assistant professors (which equals 48.9 % in our sample) (Czech Statistical Office 2015). In terms of disciplines, national statistics for the 2013–2014 year report that in the higher education sector 23.8 % of academics worked in technical sciences (compared to 22.7 % in our sample), 40.7 % in natural and medical sciences (compared to 33.1 % in our sample), and 28.2 % social sciences and humanities (compared to 42.2 % in our sample) (Czech Statistical Office 2015). Therefore, faculty in natural and medical sciences were slightly underrepresented, while faculty in the social sciences and humanities were overrepresented in our sample. Despite these biases, we were able to include a substantial proportion of academic faculty from all main disciplines into our study.

101 <https://www.czso.cz/csu/czso/3-vzdelani1778> (accessed on September 26, 2015).

102 The proportion of women among *academic staff* is therefore higher than the proportion of women among *researchers*. Consistently, Tenglerová (2015) reports that in 2013 the proportion of women *in science* was at 28.3 %, while it was 35.6 % among academic staff in the public higher education sector (ibid: 12).

Measures

We designed our questionnaire based on a review of previous research concerning changing work environments in academia (Fredman and Doughney 2012; Houston et al. 2006; Winefield et al. 2003; Shin and Jung 2014). The questionnaire included respondents' demographic characteristics (age, gender, etc.), employment variables (formal position, type of contract, length of employment, etc.), work variables (work hours, proportion of work time dedicated to research/teaching/administration, etc.), and standardized measures of employee wellbeing and perceived work environment (see below). In what follows, we describe scales relevant for the analyses conducted in this chapter.

Regarding academics' wellbeing at work, we included two measures. The first was *job satisfaction* measured with the "job satisfaction" scale from the Copenhagen Psychosocial Questionnaire II (COPSOQ II; Kristensen et al. 2005). This scale measures general job satisfaction ("How pleased are you with your job as a whole, everything taken into consideration?") as well as satisfaction with specific aspects of the job, such as career prospects. We also added one question asking the respondents to estimate their satisfaction with salary. The second measure was presence of negative emotions related to *stress*, measured with the "stress" scale from the COPSOQ II.

Regarding academics' perceptions of their work environment, we measured two domains. The first was *organizational climate*, measured by selected scales from the Organizational Climate Measure (OCM; Patterson et al. 2005). Organizational climate refers to shared employee perceptions of organizational practices and procedures (Patterson et al. 2005), i.e. how things are usually done in the organization. We specifically focused on organizational climate at the level of academic departments in order to assess the extent to which the perceived organizational climates involved features of the market model. Based on the literature review, we selected five scales which directly relate to the market model: Autonomy (degree of influence academics have over their work), Involvement

(participation of academics in governance and decision-making), Quality (the degree to which the quality of academic work is emphasized), Performance Feedback (the measurement and feedback of academic job performance), and Pressure to Produce (pressure on academics to meet performance targets).

Second, we measured academics' direct experience with various aspects of their *psychosocial work environment* using selected scales from the COPSOQ II (Kristensen et al. 2005). In contrast to the concept of organizational climate, the psychosocial work environment reflects the specificity of an individual employee experience rather than shared organizational practices. From the COPSOQ II, we selected scales measuring variables typically discussed as key features of the work environment in Anglophone countries with strong market-oriented academic systems. These scales included Quantitative Work Demands, Influence, Role Clarity, Job Insecurity, Quality of Leadership, Support from Supervisor, Support from Colleagues, and Social Community.

Findings and discussion

Gender differences in organizational position, salary, and work content

In this section we describe findings concerning gender differences in organizational position, salary, and work content.¹⁰³ We specifically focus

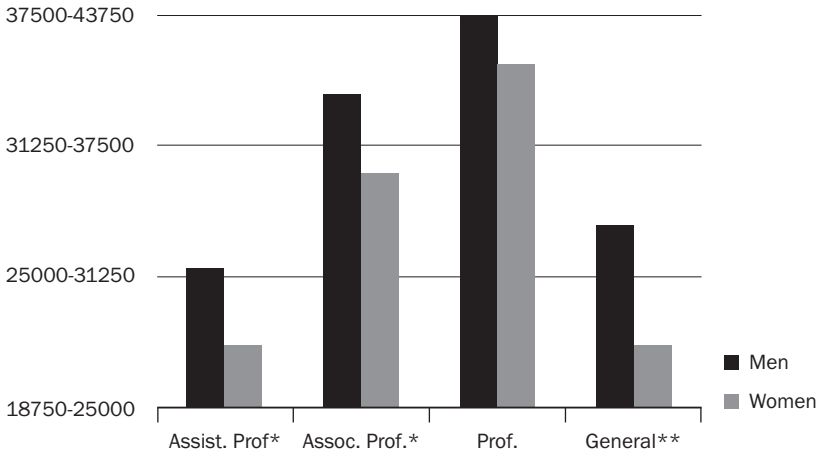
¹⁰³ To analyse the quantitative questionnaire data, we used SPSS 21.0 software. Basic findings (sample description, including job-related wellbeing and work environment aspects) were obtained using descriptive statistics (i.e., means, standard deviations, and frequencies of responses in the particular scales). Comparisons between various groups within the sample (i.e., based on gender, age, etc.) were conducted by chi square test and independent samples t-test for two-group comparisons, and by one-way ANOVA for multiple-group comparisons (the post-hoc analysis of ANOVA was conducted by the Tukey test). All reported differences were significant at least on the $p < 0.05$ level. As we included only the complete response vectors in the analysis, there was no missing data.

on these variables because they are relevant for our subsequent discussion on faculty job satisfaction.

As noted in the description of the research sample, we observed significant gender differences regarding positions of women and men faculty in the organizational hierarchy. The proportion of men and women was approximately equal in lower positions up to the level of assistant professor—at this level men comprised 51.1 % and women 48.9 % of respondents. In higher-level positions, women were noticeably under-represented, comprising 29 % of associate professors and 16.4 % of professors in our sample. Relatedly, women in our sample were under-represented in leadership positions, comprising 29.6 % of those identifying themselves as leaders at the university level, and 33.3 % of leaders at the department level. As we discussed above, this unequal gender distribution across academic ranks was fairly consistent with national statistics for the year 2014 when our data were collected (Czech Statistical Office 2014). This documents the continuing systemic discrimination of women faculty in Czech public universities, which has been already extensively discussed in previous national studies (e.g., Prudký, Pabian, and Šima 2010; Tenglerová 2015). In our further analyses below, we document that the overconcentration of women faculty in lower ranks appears to have varied negative consequences for women's wellbeing at work as compared to men, including lower levels of autonomy and influence over academic jobs and higher exposure to strains at work.

We also observed significant gender differences in average salary calculated for full-time equivalent. As shown in Figure 1, women faculty reported significantly lower average salaries at all levels of academic hierarchy than men faculty. The exception was the level of professors at which the difference between salaries of women and men faculty was not statistically significant.

Figure 1: Gender differences in average monthly gross salary



Note: Salary measured on an 8-point scale ranging from 1, less than 12,500 CZK, to 8, more than CZK 50,000. Respondents were asked to report their monthly gross salary calculated for full-time equivalent.

* - difference significant at $p < .05$; ** - difference significant at $p < .001$

On average, women faculty reported receiving a monthly gross salary in the range 25,000–31,250 CZK¹⁰⁴ (923–1,154 EUR/1,045–1,306 USD), while men reported in the 31,250–37,500 CZK range (1,154–1,385 EUR/1,306–1,568 USD). The observed gender differences in reported salary are in line with both national and international statistics which show that wage inequalities in academia persist across developed countries (Tenglerová 2015; Ministry of Social Work¹⁰⁵). The specificity of the Czech public university sector is that below the level of associate professors, salaries are low both for women and men, particularly compared to other university-educated

¹⁰⁴ To protect respondents' privacy, we asked them to report the range of their gross salary, rather than the exact amount. Our data therefore does not allow estimating the gender wage gap. The EUR/USD rates were calculated on September 16, 2015.

¹⁰⁵ <http://www.msmt.cz/vzdelavani/skolstvi-v-cr/statistika-skolstvi/statisticka-rocenska-skolstvi-zamestnanci-a-mzdove-prostredky-4>

professionals (Prudký, Pabian, and Šima 2010).¹⁰⁶ In our study, this was true for women faculty: The average range of salary reported by women faculty was lower than the average salary of university-educated professionals in the public sector (34,613 CZK in 2015, according to MPSV¹⁰⁷), and much lower than average salaries of university-educated professionals in the private sector (48,579 CZK). It has been documented that, in order to compensate for the relatively low salaries, it is not uncommon for Czech academics to accumulate jobs (Cidlinská and Vohlídalová 2015; Dvořáčková et al. 2014; Matějů and Fisher 2009). For instance, in a study of those who left Czech academia, 31 % reported accumulating jobs before their exit, most frequently at the positions of postdocs and assistant professors (Cidlinská and Vohlídalová 2015). Consistently, in Matějů and Fisher's (2010) study among Czech faculty, 33 % reported having more than one job. Such multiple employments, however, involve competing commitments and considerable time-pressures which may limit the capacity of Czech faculty for high-quality performance and success in global competition. Given the observed gender differences in salary, women faculty may be particularly affected by this negative trend.¹⁰⁸

Additionally, we examined gender differences in the distribution of work time by asking respondents to estimate their time spent on research, teaching, and administration. Compared to men, women faculty reported being significantly more involved in teaching and less in research. Specifically, women reported spending on average 44.0 % of

106 This may not be necessarily reflected in national statistics, as these typically report average salaries which are biased by high-earning individuals.

107 MPSV. *ISPV—Informační systém o průměrných výdělcích. Aktuální výsledky podle zaměstnání za 1. pololetí 2014* [online]. 2014. Available from: <http://www.mpsv.cz/ISPVcharavypis.php>.

108 One could object that men are expected to be more concerned about low salaries than women due to their traditional role as breadwinners. However, as Cidlinská and Vohlídalová (2015) show in their study of those who left Czech academia, Czech women academics appear to be concerned about low wages to the same extent as men faculty.

their work time on teaching, as compared to 39.8 % reported by men. In contrast, women spent less time on research (35.7 %) than men (38.1 %). The observed gender difference in the allocation of work time is in line with international research which shows that women faculty tend to bear heavier teaching loads and have less time for research than men (Misra et al. 2011). One of the potential explanations is that women faculty are more pressured to engage in teaching and other non-research activities necessary to keep the university going, while men are more protective of their research time (Misra et al. 2011; Teelken and Deem 2013). This may be due to gender norms which encourage women to comply with social expectations and take responsibility for others' wellbeing. Indeed, in Misra et al. (2011), women faculty cited feelings of responsibility and guilt as factors contributing to their heavier teaching loads. Additionally, women faculty may opt for more teaching-oriented careers because these are less difficult to combine with family commitments than research-intensive careers (O'Brian and Hapgood 2012). However, considering that a strong research record is an essential prerequisite for academic promotion and that many Czech academics subjectively prefer research to teaching (Dvořáčková et al. 2014), the heavier teaching load is likely to have detrimental effects on women faculty careers and satisfaction.

At the same time, it needs to be noted that the observed gender difference in work content was statistically significant, yet not dramatic, particularly compared to international studies. For instance, in Misra et al.'s (2011) study among US faculty, men in associate professor ranks spent on average 37 % of their time on research, compared to only 25 % reported by women associate professors—a much higher difference between women and men faculty than in our sample. Additionally, Czech academics in our sample did not report any significant gender difference in the time spent on administration: both women and men faculty reported spending about one-fifth of their work time on administration. This is in contrast to international research which typically shows that women academics have more substantial administration and service duties than men (Misra et al. 2011; Symonds et al. 2006). Without more

detailed knowledge of the Czech faculty work content, an interpretation of this finding would be only speculative. Therefore, there is a need for further research into the gender distribution of work activities among Czech faculty, preferably using more objective measures than subjective evaluations.

Gender differences in perceived work environments

In further analysis we compared the ways in which women and men faculty perceived various aspects of their work environment.¹⁰⁹ Before discussing the findings concerning gender differences, we first present main findings for the whole sample in order to contextualize our subsequent discussion on observed gender differences.

For the whole sample, the perception of the work environment was mostly positive. The two most agreed features of organizational climate at the level of academic departments were autonomy and quality: the majority of respondents (74.7 %) agreed that academics were provided autonomy and that quality of work was emphasized (70.4 % agreed) in their departments. At the level of the psychosocial work environment, the respondents also agreed that they experienced very high role clarity (70.4 % agreed), good social community (64.6 % agreed), and moderate to high influence over their jobs (84.6 %). By contrast, only a minority reported high or very high job insecurity (17 %) and high or very high quantitative work demands (23.6 %). These findings indicate that, at the level of faculty perceptions, the work environment in Czech public universities continues to be defined primarily by the characteristics of the Humboldtian model: high levels of autonomy and influence over academic jobs, good social community, and relatively low prevalence of

¹⁰⁹ We measured perceived work environment with scales from the COPSOQ II (variables in which we observed significant gender differences are in bold): influence, quantitative demands, support from supervisor, quality of leadership, social community, role clarity, job insecurity, recognition, and from the OCM: autonomy, pressure to produce, involvement, and performance feedback.

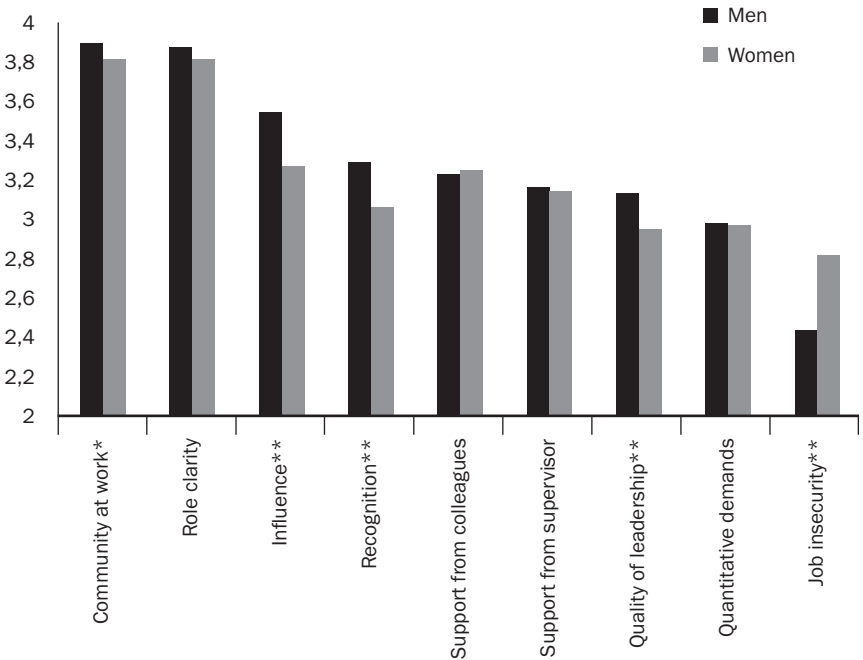
strains, such as quantitative work demands and job insecurity. Therefore these findings corroborate the thesis presented by other Czech scholars about the continuing strong presence of the Humboldtian self-rule model in the Czech public university sector (Pabian, Šima, and Kynčilová 2011) and the “collegial community” environment (Prudký, Pabian, and Šima 2010). These findings also show that features associated with the neoliberalization of academia, such as job insecurity and high workloads, had relatively low prevalence in our sample.

The analysis of gender differences, however, shows that women faculty perceived their environment less positively than men faculty. Figure 2 presents select findings regarding gender differences in respondents’ perceptions of their psychosocial work environment. We observed the largest difference in the perceived influence and job insecurity: women faculty felt that they had less influence over their work and experienced more job insecurity than men. Specifically, only one-third of women (32.9 %) reported having high or very high influence over their work, compared to almost half (49.0 %) of men. In terms of job insecurity, 22.6 % of women reported high or very high job insecurity, compared to only 12.8 % of men. Women faculty also reported significantly poorer perception of quality of leadership, poorer community at work, and lower recognition. (see Figure 2)

Regarding organizational climate at respondents’ academic departments, we found that women faculty perceived their workplaces as providing less autonomy and as more pressuring women academics to produce than men (see Figure 3). Specifically, 71.3 % of women perceived their departments as providing autonomy, compared to 77.1 % men. Additionally, 64.8 % of women perceived their departments as pressuring academics to produce, as compared to 54.5 % of men (see Figure 3).

These findings indicate that, compared to men, women faculty perceived their work environment more negatively in a number of important aspects, including autonomy and influence, strains at work (insecurity, pressure to produce) and interpersonal relations (quality of leadership, social community). Most likely, these gender differences can

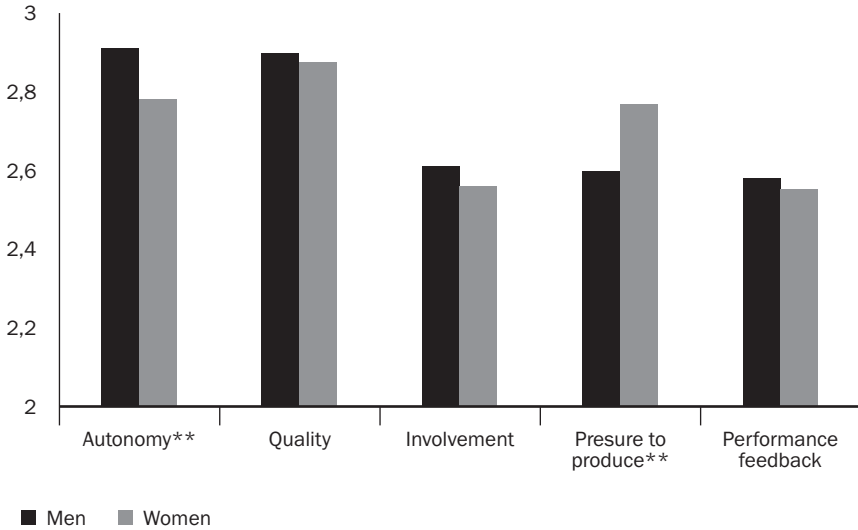
Figure 2: Gender differences in direct experience with psychosocial work environment



Note: Reported mean value for the corresponding scale. All items measured on a 5-point scale assessing the experienced frequency of related situations ranging from 1 never to 5 always. * - difference significant at $p < .05$ level; ** - difference significant at $p < .001$ level.

be in large part attributed to the fact that women faculty are concentrated in the lower ranks of the academic hierarchy. Faculty in lower ranks typically have lower levels of control over their jobs (Kinman 2001) and therefore are more likely to experience less influence and autonomy than those in upper ranks. As has been documented in previous national studies, Czech faculty in lower ranks are also more exposed to various strains, such as higher teaching loads and precarious forms of employment (Prudký, Pabian, and Šima 2010) which is likely to result in

Figure 3: Gender differences in perceived organizational climate



Note: Reported mean value for the corresponding scale. All items measured on a 4-point scale assessing organizational climate by evaluating corresponding statements on a scale ranging from 1 completely false to 4 completely true. ** – difference significant at $p < .001$ level.

higher perceived pressures to produce and higher job insecurity among academics in lower ranks (i.e., mostly women). For instance, Cidlinská and Vohlídalová (2015) have documented that Czech women academics work on precarious work contracts to a higher extent than men academics. Additionally, the observed gender differences may be linked to gender barriers faced by women academics. For instance, the poorer perception of leadership and social community among women faculty may be linked to their limited access to mentoring and poorer support from supervisors, reported by other studies (see Cidlinská and Vohlídalová 2015). Relatedly, international research shows that, as a group, women academics are less successful in effectively using social networks (Van Emmerick et al. 2006). Because networking provides access to social support (Van Emmerick

2006), the less successful engagement of women faculty in networks may also negatively impact their sense of community at work.

Another potential explanation of the above-described gender differences relates to the current transformation of Czech public universities. The variables on which women faculty fared worse than men—lower influence, increased pressure to produce, and increased job insecurity—are features associated with neoliberal academia (Gillespie et al. 2001; Tytherleigh et al. 2005; Winefield et al. 2003). One could therefore speculate that in the transforming university environment, such as in the Czech Republic, women faculty are exposed to a higher degree than men to these negative aspects of emerging neoliberalization. To give a speculative example, when academic leaders begin increasing pressure to produce while cutting costs (e.g. through reducing grant-based salaries or transferring academics to part-time contracts), women faculty may be more often affected than men. This argument can be tentatively supported with data from a study into destructive academic cultures in Czech universities (Záborská and Květon 2015). In this study, junior women faculty at some departments reported being systematically exploited as a “free work force”, for example by being forced to work excessively long work hours, receiving inadequately low salaries, or being stripped of authorship of their work (see also Chapter 9 by K. Cidlinská). Gender stereotypes among some male leaders—namely their perception of women researchers as an undesirable deviation from the masculine norm (Tenglerová 2015) as well as being “safer” targets of exploitation—appeared to play an important role.

Gender differences in job satisfaction and stress

In what follows, we extend our analysis by examining gender differences in the reported levels of job satisfaction and stress, which represent two key indicators of wellbeing at work. We specifically focus on job satisfaction and stress because these two measures have been the most frequent focus of studies into academic faculty wellbeing (e.g., Bentley et al. 2013;

Shin and Jung 2014) and therefore are best suited for international comparison. As in the previous sections, we first present findings on job satisfaction and stress for the whole sample and then proceed to discuss observed gender differences.

In the whole sample, general job satisfaction was high: 83.6 % of respondents reported that they were very satisfied or satisfied with their jobs, when all their job's aspects were taken into consideration. Regarding specific aspects of their job, respondents were most satisfied with their physical work conditions (80.8 %), followed by the use of their abilities (69.1 %), and career prospects (66.8 %). The only job aspect with which most respondents expressed dissatisfaction was salary: only 46.0 % of respondents were satisfied or very satisfied with their salary. The full discussion of these findings is beyond the scope of this chapter and has been addressed elsewhere (see Zábrodská et al. 2016). It is important to note, however, that by international comparison the level of overall job satisfaction in our sample was high both for men and women faculty. For instance, in a recent analysis of higher education systems across 19 countries (Shin and Jung 2014), the average percentage of academics who were satisfied with their jobs was 69.5 % in countries classified as “the high-satisfaction cluster” and much lower in the “low-satisfaction” cluster (Shin and Jung 2014). The lowest satisfaction was reported by academics in the UK, where only 47 % reported satisfaction with their jobs (*ibid.*).

A plausible explanation of the high job satisfaction among Czech faculty is the continuing strong presence of the Humboldtian model of academic self-rule in Czech public universities. The comparative analysis of higher education systems (Shin and Jung 2014) has suggested that academic self-rule¹¹⁰ positively correlates with academics' job satisfaction, while the market model appears to have a negative effect. Two key factors have been hypothesized to enhance faculty satisfaction in the self-rule

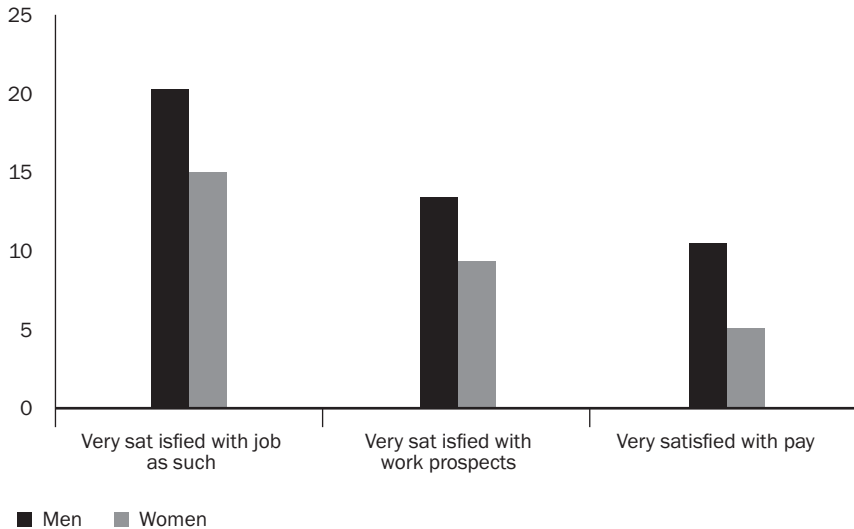
110 Shin and Jung (2014) use the term “professor-oriented” system. However, based on the authors' description, we conclude that this system corresponds to the Humboldtian model in all main features.

model: high levels of autonomy and influence academics have over their jobs as well as relatively high social prestige of the academic profession in countries with this model (for details, see Shin and Jung 2014). Both of these factors can be identified as key features of the academic profession in the Czech Republic. The high levels of autonomy of Czech academics has been documented in previous national studies (Pabian, Šima, and Kynčilová 2011; Prudký, Pabian and Šima 2010) as well as in our own findings reported above. Additionally, the academic profession regularly occupies one of the top positions in public opinion surveys examining the prestige of occupations among the Czech public (Institute of Sociology 2013 2016). Thus, it seems plausible to assume that the high level of job satisfaction among Czech university academics is related to these two key features of the academic self-rule model (for a fuller discussion of factors impacting job satisfaction and other aspects of employee well-being among Czech faculty, see Zábrodská et al. 2016, 2017; Mudrák et al. 2017).

Nonetheless, within this generally-high level of job satisfaction, women faculty yet again fared less well than men (see Figure 4). Our findings showed that fewer women than men experienced their jobs as highly satisfying. Specifically, 15.0 % of women academics reported to be “very satisfied” with their jobs “when everything is taken in consideration”, as compared to 20.3 % of men academics. Additionally, we found significant gender differences in satisfaction with career prospects and salary, in both of which women faculty reported lower satisfaction than men. These findings are not surprising given that, compared to men, women faculty in Czech universities have average lower salaries and face considerable barriers in career advancement (Tenglerová 2015). Our findings are also congruent with some international studies. Lower general job satisfaction and lower satisfaction with salary and promotion in women was reported, for instance, among academics in Germany and the US (Callister 2006; Hohle and Teichler 2013; Okpara, Squillace and Erundu 2005). At the same time, it needs to be emphasized that, despite the observed gender differences, the overall job satisfaction was high both in men and women.

Additionally, no gender differences were found in other satisfaction variables: satisfaction with physical work conditions and with the use of respondents' abilities.

Figure 4: Gender differences in job satisfaction: proportion (in %) of very satisfied academics



Note: Job satisfaction measured on a 4-point scale 1 very unsatisfied, 2 unsatisfied, 3 satisfied, 4 very satisfied; gender differences are statistically significant ($p < .01$).

Next, we examined the incidence of negative emotions related to stress. High levels of job stress in academic staff have been frequently discussed as a rising concern in marketized academia at least since the 1990s (for a review of this earlier research see Kinman 2001). In our sample, by contrast, the reported level of stress was relatively low. Only 13.7 % of respondents reported high or very high exposure to stress, compared to 51.9 % who reported minimal or no stress. These percentages are considerably lower than reported in international studies. For instance in Australia, Winefield et al. (2003) found that 43 % of Australian academics across 17 universities

could be classified as being threatened by psychological illness resulting from undue stress (as compared to only 12 % in the general Australian population). In a study among UK academics, Kinman (1998) found that 53 % of the respondents reported borderline levels of stress (as compared to 27 % in the general UK population). Consistently with our discussion above, we suggest that the low levels of stress in our sample are—at least to some extent—related to the relatively low occurrence of market pressures among Czech academic faculty. As reviewed by Kinman (2001), occupational stress among academics is typically linked to a lack of control (influence) over jobs, time constraints, role ambiguity, and job insecurity—all variables which were of relatively low prevalence in our sample.

Interestingly, when examining levels of stress among women and men faculty, we observed no significant gender differences. Specifically, 14.9 % of women reported high exposure to stress compared to 12.7 % of men. Low exposure to stress was reported by 49.9 % of women compared to 53.6 % of men. Thus, women faculty experienced only marginally higher levels of stress than men. By contrast, Cidlinská and Vohlídalová's study (2015) among those who left Czech academia showed that women were more likely to report than men that their decision to quit their academic job was due to stress (and burnout), a particularly salient factor among young women at the early career stages. International research brings similarly mixed results regarding gender differences in levels of stress (Kinman 2001). To our knowledge, there are no other studies concerning stress among Czech academic faculty. Therefore, further research is needed to investigate potential gender differences in the level of stress among Czech faculty and factors explaining the potential absence of such differences.

Gender, academic rank, and age differences in faculty wellbeing

Considering that the effect of gender on job satisfaction was significant, yet not dramatic, and that no effect of gender on stress was observed,

we examined other demographic factors—namely academic rank and age—as potential factors impacting academics’ wellbeing.

First, we compared job satisfaction and stress in men and women faculty across academic ranks (see Table 1). As Table 1 shows, job satisfaction steadily increases with academic rank. Compared to other groups, faculty in the highest academic ranks (professors and associate professors) were significantly more satisfied with their jobs and also reported the lowest incidence of stress. The highest job satisfaction was reported by men professors, followed by women professors (the difference between men and women professors was not statistically significant). By contrast, the lowest job satisfaction was reported by those in the lowest academic ranks (PhD and postdocs). The highest exposure to stress was reported by women at the level of PhD and postdocs.

These findings make sense considering the hierarchical structure of the Czech public university sector. As Prudký, Pabian and Šima (2010) observe, habilitation (i.e., achieving the rank of associate professor) continues to represent the key turning point in the academic careers of Czech faculty, in large part due to the key role of habilitation in accreditation procedures. Habilitation refers to the procedure by which a faculty member with a doctorate degree can receive the life-long title of “docent”, which is a necessary prerequisite for obtaining a professorship. To achieve the title of docent, a faculty member must successfully complete the habilitation procedure, which requires the faculty member to be involved for several years in uninterrupted extensive teaching and research and to demonstrate further qualifications, such as the ability to obtain research funding and effectively supervise students. Those faculty who complete the habilitation tend to be highly valued because university departments, in order to obtain accreditation for academic programmes, are legally bound to employ docents and professors as guarantors of the quality of teaching and research (for details, see Chapter 3 by K. Šima and P. Pabian). Therefore, for an individual faculty member, achieving habilitation typically means a considerable increase in salary, long-term or permanent contract, and access to power through participation in

university governance bodies. This is in marked contrast to working conditions of those in lower academic ranks who struggle with low salaries, insecurity of work due to short-term contracts, and high work demands (Prudký, Pabian and Šima 2010). These inequalities between academic ranks are therefore fully consistent with our finding that academic rank is a significant predictor of wellbeing at work among Czech faculty.

The crucial importance of habilitation in the career of a Czech faculty member has implications for gender inequalities at Czech universities. As noted above, women faculty are significantly less likely to achieve habilitation and they remain concentrated in positions below the rank of associate professor; positions that are associated with less favourable working conditions, such as higher job insecurity, lower salaries, or less influence. The underrepresentation of women faculty among those who have completed the habilitation procedure can likely be explained by a number of obstacles that women faculty face in applying for and completing the habilitation procedure. The obstacles are particularly salient for women faculty with children because the requirement to be involved for several years in uninterrupted extensive teaching and research collides with career breaks or a career slowdown that many women faculty experience due to their caring responsibilities. Women faculty can thus either postpone motherhood until after they complete their habilitation, or they can postpone the habilitation procedure until their children are less dependent. The second option, however, comes with the risk of redundancy: when job opportunities and resources are scarce, faculty with habilitation are likely to be prioritized. Additionally, women faculty are likely to be disadvantaged by non-meritocratic factors, such as the size of social networks or scientific reputation, which also play a role in successfully completing the habilitation procedure. Thus, it can be argued that habilitation both reflects and reproduces inequalities between women and men faculty.

Next, we examined differences in job satisfaction and stress in academics across age groups (see also Table 1). As Table 1 shows, compared to other groups the oldest age group (60+) was most satisfied with their

Table 1: Gender, position, and age differences in job satisfaction and stress (mean value for the group)

Gender/ position	Men PhD/ Postdoc	Women PhD/ Postdoc	Men Assist prof	Women Assist prof	Men Assoc Prof	Women Assoc Prof	Men Prof	Women Prof
N	153	212	489	468	240	98	205	98
Job sat.	2.69	2.67	2.71	2.68	2.91	2.82	2.99	2.93
Stress	3.38	3.20	3.30	3.28	3.48	3.38	3.60	3.59

Gender/ age	Men <29	Women < 29	Men 30–39	Women 30–39	Men 40–59	Women 40–59	Men >60	Women >60
N	168	170	510	390	390	298	205	98
Job sat.	2.70	2.71	2.79	2.67	2.78	2.69	2.91	2.87
Stress	3.39	3.25	3.23	3.16	3.34	3.38	3.82	3.78

Note: Job Satisfaction measured on a 4-point scale: 1 (very unsatisfied), 2 (unsatisfied), 3 (satisfied), 4 (very satisfied); Stress measured on a 5-point scale assessing the frequency of related emotions ranging from: 1 (always)—5 (never). Sub-groups within gender/position and gender/age groups compared by one way ANOVA, difference between sub-groups significant at the $p < .001$ level.

jobs and reported least incidence of stress. More specifically, the highest job satisfaction was reported by men 60+ who also reported the lowest experience of stress. By contrast, the lowest job satisfaction was reported by women in age groups 30–39 and 40–49. A plausible explanation of these findings is that in academia older age is typically associated with higher academic ranks and higher social capital and therefore with the above-described benefits, including higher salary, job security, and access to decision making.

In fact, in contrast to many other employment sectors, older age appears to represent a considerable advantage in the academic sector. Apart from the already described benefits, research also suggests that academics in older age groups are relatively protected from various forms of negative workplace behaviour, such as workplace hostility and bullying, while younger academics are its most frequent targets (Hollis 2014; Zábrodská and Květon 2013). For instance, a study into workplace bullying in Czech public universities (Zábrodská and Květon 2013) found

that academics 50+ were significantly less targeted than other age groups, while those younger than 29 years had the highest exposure to bullying. The mechanisms through which older age positively impacts faculty well-being are most likely complex—it may be through formal power provided by academic rank, engagement in social networks (including “old-boys networks”), participation in academic governance, or some other factors. Therefore, future research should address this question.

The fact that the lowest job satisfaction in our sample was reported by women faculty in age groups 30–39 and 40–49 rather than by the youngest group has several interpretations. First, these are the ages which coincide with child-bearing and child-rearing in many women faculty. Therefore, women faculty in these age groups are most likely to be burdened with family commitments and experience various work strains due to work-family conflicts. As Tenglerová (2015) notes, Czech women academics in these age groups experience the highest wage gap compared to men¹¹¹, presumably reflecting the “motherhood penalty” (p. 48). International research also indicates that, compared to junior and senior ranks, women in their mid-careers are most heavily burdened by non-research activities, including teaching, administration, and students’ supervision (Misra et al. 2011). Involvement in such activities is time-consuming, yet typically remains undervalued and unrewarded, which may also reduce job satisfaction for women in these age groups. Overall, it is plausible to assume that women faculty in age groups 30–39 and 40–49 experience particularly salient gender inequalities, which is then reflected in their comparatively low satisfaction at work.

To summarize, our findings show that age and academic rank represent key predictors of job satisfaction and stress among Czech academic faculty. In fact, both academic rank and age appeared to be stronger predictors of the wellbeing of academic staff than gender: We found no gender differences in job satisfaction and stress between academics

111 Tenglerová (2015: 46) notes that the highest wage gap among Czech academics is experienced by women academics in age groups 35–39 and 40–44 years.

belonging to the same academic rank and age group. These findings therefore indicate that once women achieve higher academic ranks of associate professors and professors they experience equally high levels of job satisfaction and equally low stress as men faculty. However, given that women faculty at Czech universities are considerably less likely than men to reach these higher academic ranks, gender still appears to be an important factor in faculty satisfaction.

Conclusion

The purpose of this study was to examine whether gender differences are revealed in work conditions of women and men faculty employed at Czech public universities. As one of the main findings, the current study found that, irrespective of gender, the majority of faculty in our sample was satisfied with their academic jobs as well as with specific aspects of the job, except for salary. Drawing on recent research concerned with the changing academic environment in the university sectors both in national and international contexts (Prudký, Pabian and Šima 2010; Shin and Jung 2014), we suggested that this mostly positive perception can to some extent be attributed to the continuing presence of key elements of the Humboldtian model of academic self-rule at Czech public universities, especially to high levels of academic autonomy and influence academics continue to exercise over their jobs. Relatedly, compared to Anglophone countries with strongly market-oriented higher education systems, the academic work environment reported by Czech faculty in our sample evinced relatively few symptoms of the neoliberal transformation; instead, respondents reported relatively low job insecurity, low quantitative work demands, and low levels of stress. It should be noted, however, that the positive perception of the academic work environment is also likely related to the composition of our sample, which consisted to a large extent of “regular” faculty with full-time contracts. As other chapters in this book (see, for instance, Chapter 9 by K. Cidlinská and M. Vohlídalová) suggest, the portrayal of the Czech university environment might have

been less positive if the sample included more part-time faculty or PhD students who often significantly contribute to the performance of their academic departments without necessarily working on a contract.

Within the generally positive report on the Czech university environment, however, women faculty were unequally positioned. The gender differences observed in our study in many respects mirror international studies: women faculty in our sample were overrepresented at the lower academic ranks, received lower average salaries, and spent more time on (less valued) teaching and less time on (more valued) research than men. Women also perceived their work environment less positively than men, as reflected in their lower reported influence, higher job insecurity, less recognition, and less positive perception of social community and leadership. At the level of organizational climate, women faculty felt that there was more pressure to produce and less autonomy than reported by men. Finally, women faculty reported lower levels of overall job satisfaction and satisfaction with salary and work prospects. This being said, we noted throughout the study that the observed gender differences were statistically significant, yet not dramatic. Moreover, in a number of the measured variables, no significant gender differences were observed. Therefore, the practical relevance of the reported gender differences should not be overstated. Rather, we would conclude that both women and men faculty in our sample worked in an environment that was mostly supportive towards their wellbeing at work. As a group, however, women faculty were able to benefit from this environment to a lesser degree than men faculty.

The relatively positive perception of working conditions among our sample of Czech university academics provides an interesting contrast to studies describing the increasing neoliberal transformation of Czech research institutions. As described throughout this book, work conditions for academics employed in research centres and institutions (especially at the Czech Academy of Sciences) have changed profoundly during the past few years. Currently, they display many of the symptoms of such transformation, including obsession with performance measurements

and accountability, increased competitiveness, and increased insecurity of the academic profession (Cidlinská and Vohlídalová 2015: 5–6; Cidlinská and Linková 2013). While public universities undoubtedly face similar pressures at the systemic level, it is possible that actual working conditions at academic departments have been less impacted by the neoliberal pressures than working conditions in research-intensive positions at research institutions. For instance, an ethnographic study at five Czech higher education institutions (Dvořáčková et al. 2014) found that despite the increasing formal pressure on faculty to increase publication outcomes, non-compliance with the required performance was relatively common at some of the departments and did not necessarily have negative consequences for individual faculty members. In other words, the systemic pressures may not yet have led to significant changes in individual faculty work and their job satisfaction.

A salient factor differentiating between public universities and research institutions may be funding—compared to public universities, academics in research institutions are more dependent on competitive, grant-based funding and high research productivity, which may incite more competitive, stressful, and insecure working conditions. In line with this, Cidlinská and Vohlídalová (2015) found that job precarity was the most pronounced reason for leaving an academic career among those exiting research positions at the Czech Academy of Sciences, but not among those exiting a public university. These findings jointly point to the need to distinguish between academic institutions when describing the current work environment of Czech academics and avoid portraying Czech academia as unified. The descriptions of Czech academia as full of insecurities and instabilities (e.g., Cidlinská and Vohlídalová 2015; Linková and Červinková 2013; Linková et al. 2013) may be highly valid for many academics employed in research-intensive positions, but may not necessarily apply to working conditions of faculty at public universities, as suggested by our findings. In fact, research on destructive academic cultures (Zábrodská and Květon 2015) indicates that quite contrasting types of academic cultures co-exist at Czech university departments:

some are defined by conservative tendencies and surprising disregard for academic productivity, while others are marked by excessive pressure to produce typical for the neoliberal academia.

The need to differentiate also applies to subgroups of academics. A number of previous national studies pointed to marked inequalities between junior and senior academics in Czech academia (Červinková 2010; Cidlinská and Vohlídalová 2015; Prudký, Pabian and Šima 2010). Consistently, we demonstrated that faculty satisfaction in our sample positively correlated with high academic ranks and older age, while low academic ranks and younger age had negative effects. The most satisfied (and simultaneously the least stressed) were men professors above the age of 60, while the least satisfied (and simultaneously most stressed) were women between the levels of PhD and assistant professors. The key turning point in job satisfaction appears to be achieving ranks of associate professors through habilitation. It is plausible to assume that this finding reflects the privileged position which associate professors and professors are granted through Czech accreditation procedures. Importantly for the discussion on gender inequalities, academic rank and age proved to be more important predictors of job satisfaction and stress than gender: No statistically significant gender differences were found between women and men faculty belonging to the same academic rank and age group. This suggests that once women achieve the higher academic ranks of associate professors and professors, they experience equal levels of satisfaction at work as men.

The practical implications of these findings are clear—women faculty need to be promoted to the highest academic ranks of associate professors and professors to an equal extent as men faculty. To this aim, transparent and standardized rules regarding promotion—and particularly habilitation—should be established. Currently, achieving the ranks of associate professors and professors is not only difficult and lengthy (Cidlinská and Vohlídalová 2015), but also tends to involve rather vague and “flexible” criteria, which allow for subjective biases and the influence of “old boys” networks, factors notoriously disadvantageous (not only

to women faculty. Such criteria should involve explicit requirements regarding research output and other metrics of productivity. At the same time, metrics need to be used with caution as they have been demonstrated to disadvantage those with non-traditional career paths (O'Brien and Hapgood 2012), particularly those working part-time or returning after a career break (i.e. mostly women). Therefore, as O'Brien and Hapgood (2012) argue, it is essential that metrics are considered within the context of each individual faculty member's career, including their previous part-time status, past career breaks, and teaching and service loads. Furthermore, department chairs should regularly review the work allocation of faculty members to reduce risks that some department members, particularly women and junior faculty, are unequally burdened by teaching and non-research activities. They should ensure that both women and men faculty have not only equal time allocated for research, but also receive an equal extent of academic support (e.g., writing grants, mentoring).

Literature

- Barad, K. 2007. *Meeting the Universe Halfway*. London: Duke University Press.
- Bentley, P. J., H. Coates, I. R. Dobson, L. Goedegebuure and V. L. Meek. 2013. 'Academic Job Satisfaction from an International Comparative Perspective: Factors Associated with Satisfaction across 12 Countries.' Pp. 239–262 in *Job Satisfaction around the Academic World*, edited by P. J. Bentley, H. Coates, I. R. Dobson, L. Goedegebuure and V. L. Meek. Berlin: Springer.
- Callister, R. R. 2006. 'The Impact of Gender and Department Climate on Job Satisfaction and Intentions to Quit for Faculty in Science and Engineering Fields.' *Journal of Technology Transfer* 31: 367–375.
- Chandler, J., J. Barry and H. Clark. 2002. 'Stressing Academe: The Wear and Tear of the New Public Management.' *Human Relations* 55 (9): 1051–1069.

- Cidlinská, K. and M. Vohlídalová. 2015. 'Zůstat, nebo odejít? O deziluzi (začínajících) akademických a vědeckých pracovníků a pracovníc.' *Aula: revue pro vysokoškolskou a vědní politiku* 1: 3–35.
- Cidlinská, K. and M. Linková. 2013. 'Ekonomie příslibu: pracovní nejistota a gender na počátku vědecké dráhy.' Pp. 51–80 in *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy*, edited by M. Linková et al. Prague: Sociologické nakladatelství (SLON) Institute of Sociology, Academy of Sciences of the Czech Republic.
2013. *Prestiž povolání – červen 2013*. (<http://cvvm.soc.cas.cz/prace-prijmy-zivotni-uroven/prestiz-povolani-cerven-2013>).
- Institute of Sociology, Academy of Sciences of the Czech Republic.
2016. *Prestiž povolání – červen 2013*. (<http://cvvm.soc.cas.cz/prace-prijmy-zivotni-uroven/prestiz-povolani-unor-2016>).
- Czech Statistical Office. 2014. *Focus on Men and Women*. Retrieved 26 September 2015 (<https://www.czso.cz/csu/czso/3-vzdelani1778>).
- Czech Statistical Office. 2015. *Focus on Men and Women – 2015. Academic Staff Statistics*. Retrieved 26 September 2015 (<https://www.czso.cz/csu/czso/3-education>).
- Davies, B., M. Gottsche and P. Bansel. 2006. 'The Rise and Fall of the Neoliberal University.' *European Journal of Education* 41 (2): 305–319.
- Dobbins, M. 2011. 'Explaining Different Pathways in Higher Education Policy in Romania and the Czech Republic.' *Comparative Education* 47 (2): 223–245.
- Dobbins, M. and C. Knill. 2009. 'Higher Education Policies in Central and Eastern Europe: Convergence toward a Common Model?' *Governance* 22 (3): 397–430.
- Dobbins, M., C. Knill and E. M. Vögtle. 2011. 'An Analytical Framework for the Cross-Country Comparison of Higher Education Governance.' *Higher Education* 62 (5): 665–683.
- Dvořáčková, J., P. Pabian, S. Smith, T. Stöckelová, K. Šima and T. Virtová. 2014. *Politika a každodennost na českých vysokých školách*. Prague: Sociologické nakladatelství (SLON).

- Fredman, N. and J. Doughney. 2012. 'Academic Dissatisfaction, Managerial Change and Neo-liberalism.' *Higher Education* 64 (1): 41–58.
- Gillespie, N. A., M. Walsh, A. H. Winefield, J. Dua and C. Stough. 2001. 'Occupational Stress in Universities: Staff Perceptions of the Causes, Consequences and Moderators of Stress.' *Work & Stress* 15 (1): 53–72.
- Höhle, E. A. and U. Teichler. 2013. 'Determinants of Academic Job Satisfaction in Germany.' Pp. 125–143 in *Job Satisfaction around the Academic World*, edited by P. J. Betley et al. Berlin: Springer.
- Hollis, L. P. 2014. 'Lambs to Slaughter? Young People as the Prospective Target of Workplace Bullying in Higher Education.' *Journal of Education and Human Development* 3 (4): 45–57.
- Husu, L. 2014. 'Research Funding Gap: Her Excellence Dwarfed by his Excellence.' Retrieved 16 July 2015 (<http://euroscientist.com/2014/06/research-funding-gap-excellence-dwarfed-excellence/#sthash.aMIyTj3S.dpuf>).
- Hündlová, L., K. Provázková and P. Pabian. 2010. 'Kdo vládne českým vysokým školám? Kvalitativní studie rozhodovacích mechanismů na dvou fakultách a jejich katedrách.' *Aula: revue pro vysokoškolskou a vědní politiku* 18 (4): 2–16.
- Kinman, G. 2001. 'Pressure Points: A Review of Research on Stressors and Strains in UK Academics.' *Educational psychology* 21 (4): 473–492.
- Kristensen, T. S., H. Hannerz, A. Høgh and V. Borg. 2005. 'The Copenhagen Psychosocial Questionnaire – A Tool for the Assessment and Improvement of the Psychosocial Work Environment.' *Scandinavian Journal of Work, Environment & Health* 31 (6): 438–449.
- Kolsaker, A. 2008. 'Academic Professionalism in the Managerialist Era: A Study of English Universities.' *Studies in Higher Education* 33(5): 513–525.

- Linková, M. and A. Červinková. 2013. 'Vlastní laboratoř: Akademické trajektorie a gender v současných biovědách.' *Gender, rovné příležitosti, výzkum* 14 (1): 15–26.
- Linková, M., K. Cidlinská, H. Tenglerová and M. Vohlídalová, M. 2013. *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy*. Prague: Sociologické nakladatelství (SLON).
- Linková, M. 2014. *Disciplining Science: The Impacts of Shifting Governmentality Regimes on Academic Research in the Natural Sciences in the Czech Republic*. Charles University in Prague (Dissertation Thesis).
- Matějů, P. and J. Fischer. 2009. *Výzkum akademických pracovníků vysokých škol*. [A Survey of Academic University Employees] Prague: MŠMT.
- Misra, J. et al. 2011. 'The Ivory Ceiling of Service Work.' *Academe Online* 97 (1).
- Morley, L. 2015. 'Troubling Intra-actions: Gender, Neo-liberalism and Research in the Global Academy.' *Journal of Education Policy* 31 (1): 28–45, <http://dx.doi.org/10.1080/02680939.2015.1062919>.
- Mudrák, J., K. Záborská, P. Květon, M. Jelínek, M. Blatný, I. Šolcová and K. Machovcová. 2017. 'Occupational Well-being Among University Faculty: A Job Demands-resources Model.' *Research in Higher Education* 1–24 (Online First).
- O'Brien, K. R. and K. P. Hapgood. 2012. 'The Academic Jungle: Ecosystem Modelling Reveals Why Women Are Driven Out of Research.' *Oikos* 121 (7): 999–1004.
- Okpara, J. O., M. Squillace and E. A. Erundu. 2005. 'Gender Differences and Job Satisfaction: a Study of University Teachers in the United States.' *Women in Management Review* 20 (3): 177–190.
- Pabian, P., K. Šima and L. Kynčilová. 2011. 'Humboldt Goes to the Labour Market: How Academic Higher Education Fuels Labour Market Success in the Czech Republic.' *Journal of Education and Work* 24 (1–2): 95–118.

- Patterson, M. G., M. A. West, V. J. Shackleton, J. F. Dawson, R. Lawthom, S. Maitlis and A. M. Wallace. 2005. 'Validating the Organizational Climate Measure: Links to Managerial Practices, Productivity and Innovation.' *Journal of Organizational Behavior* 26 (4): 379–408.
- Pesik, R. and T. Gounko. 2011. 'Higher Education in the Czech Republic: The Pathway to Change.' *Compare: A Journal of Comparative and International Education* 41 (6): 735–750.
- Prudký, L., P. Pabian and K. Šima. 2010. *České vysoké školství. Na cestě od elitního k univerzálnímu vzdělávání 1989–2009*. Prague: Grada.
- Shin, J. C. and J. Jung. 2014. 'Academics Job Satisfaction and Job Stress across Countries in the Changing Academic Environments.' *Higher Education* 67 (5): 603–620.
- Symonds M. R., N. J. Gemmell, T. L. Braisher, K. L. Gorringer and M. A. Elgar. 2006. 'Gender Differences in Publication Output: Towards an Unbiased Metric of Research Performance.' *PLoS ONE* 1 (1): e127, <http://dx.doi.org/10.1371/journal.pone.0000127>.
- Teelken, C. and R. Deem. 2013. 'All Are Equal, but Some Are More Equal than Others: Managerialism and Gender Equality in Higher Education in Comparative Perspective.' *Comparative Education* 49 (4): 520–535.
- Tenglerová, H. 2015. *Postavení žen v české vědě a aktivita na jejich podporu. Monitorovací zpráva za rok 2013*. Prague: Sociologický ústav AV ČR.
- Thomas, R. and A. Davies. 2002. 'Gender and New Public Management: Reconstituting Academic Subjectivities.' *Gender, Work & Organization* 9 (4): 372–397.
- Tytherleigh, M., C. Webb, C. Cooper and C. Ricketts. 2005. 'Occupational Stress in UK Higher Education Institutions: A Comparative Study of All Staff Categories.' *Higher Education Research & Development* 24 (1): 41–61.

- Van Emmerik, I. H. 2006. 'Gender differences in the creation of different types of social capital: A multilevel study.' *Social networks* 28 (1): 24–37.
- Van Emmerik, I. H., M. C. Euwema, M. Geschiere and M. F. Schouten. 2006. 'Networking Your Way through the Organization: Gender Differences in the Relationship between Network Participation and Career Satisfaction.' *Women in Management Review* 21 (1): 54–66.
- Winefield, A. H. and R. Jarrett. 2001. 'Occupational Stress in University Staff.' *International Journal of Stress Management* 8 (4): 285–298.
- Winefield, A. H., N. Gillespie, C. Stough, J. Dua, J. Hapuarachchi and C. Boyd. 2003. 'Occupational Stress in Australian University Staff: Results from a National Survey.' *International Journal of Stress Management* 10 (1): 51–63.
- Zábrodská, K. and P. Květon. 2013. 'Prevalence and Forms of Workplace Bullying among University Employees.' *Employee Responsibilities and Rights Journal* 25 (2): 89–108.
- Zábrodská, K. and P. Květon. 2015. 'The Czech Republic: Workplace Abuse in a Post-Transitional Country.' In *Workplace Abuse, Incivility and Bullying: Methodological and cultural perspectives*, edited by M. Omari and M. Paull. London/New York: Routledge.
- Zábrodská, K., J. Mudrák, P. Květon, K. Machovcová, M. Blatný and I. Šolcová. 2016. 'Keeping Marketization at Bay: The Quality of Academic Worklife in Czech Universities.' *Czech Sociological Review* 52 (3): 347–373.
- Zábrodská, K., J. Mudrák, I. Šolcová, P. Květon, M. Blatný and K. Machovcová. 2017. 'Burnout among University Faculty: The Central Role of Work–family Conflict' *Educational Psychology* 1–20 (Online First).

9. Gloomy Prospects in Czech Academia: Who Gets Lost and Why?

Kateřina Cidlinská, Marta Vohlídalová

While¹¹² the number of doctoral fellows is continually increasing, ever-changing work conditions in public research institutions and higher education institutions pose an increasing number of challenges for early-career researchers and university faculty. Between 1998 and 2006 the number of doctoral programme graduates increased by 13% (OECD 2010: 6), and between 2004 and 2013 by 36% (MŠMT 2014). Given the academic focus of doctoral programmes, the majority of which have not been designed with regard to graduates' employment beyond academia (Technopolis Group 2011b), it may rightly be expected that a large portion of doctoral programme graduates will aim to find employment in academic research or tertiary education. According to the results of an international audit of Czech research (Technopolis Group 2011b: 61), a research and pedagogical position ranked among the most preferred future types of employment for doctoral fellows. The number of such posts, however, is highly limited, and the proportion of stable work positions has fallen continually (OECD 2010: 16). It can therefore be expected that many doctoral programme graduates will eventually leave academia.

There is little attention paid to those research and teaching staff in the Czech Republic who give up their academic careers and leave academia. Asking the question to where, or more precisely into which sector and to which positions, people move after leaving academia is

112 The writing of this paper was supported by the Grant Agency of Charles University (Project No. 694512) and by the EUPRO II programme of the Ministry of Education, Youth, and Sports (project no. LE12003).

important because it touches on the thorny question of the returns on investments of both individuals and institutions into educating doctoral and postdoctoral fellows and—a point we emphasize this aspect in this chapter—it leads us to consider which people public research and higher education institutions are losing and the implications of this move for their career paths.

Attrition from academia and related topics are paid a great deal of attention abroad, especially in the UK and US (e.g., RSC 2002, 2008a, 2008b, Preston 2004); in contrast, the topic has not yet been mapped out in the Czech Republic, and with the exception of a study performed by the Czech Statistics Office for the OECD in 2006 which focused on the career paths of doctorate holders¹¹³, there are no data on this topic. The goal of this chapter is to address this gap although we are fully aware that our study is only a partial contribution into the debate. We build on an analysis of a quantitative survey from 2014. This survey included people who have left an academic position (in research and/or teaching) in the last 10 years. We ask *who are the people who have left an academic position in the last 10 years, why did they leave, and what is their current gainful employment?* Special attention is paid to the gender dimension of the studied phenomena.

Before we present our findings, we will first discuss work conditions in the changing academic environment that present an important context for the consideration of why people leave academic science. Because this context is discussed in greater detail at the outset of the book and in the other chapters, here we will deal only with aspects that specifically concern early stage academics.

113 See https://www.czso.cz/csu/czso/vyzkum_profesniho_rustu_drzitelu_doktorskych_titulu

Conditions for launching an academic path

The Czech academic sector is undergoing extensive neoliberal reforms including the cutting of long-term funding of public research (for details see Chapter 3) which threaten most early-career academics (Vastag 2006).

An increase in work precariousness due to a decrease in institutional funding does not concern all staff to the same degree. As in a Canadian case analysed by Bauder (2006), the academic labour market in the Czech Republic is becoming segmented. The labour market is increasingly divided into stable work positions with a long-term outlook (e.g., core employees or positions of associate and full professors) the proportion of which is continually falling, and “flexible” staff hired in response to current needs (i.e., contract research or academic staff hired to carry out research projects or teach for a semester), the proportion of which is rapidly increasing. This division into primary and secondary academic labour market reflects generational inequalities. The newly formed system strengthens the positions of senior academics while placing obstacles to early-career academics in establishing their position and securing a more stable contract. This is also linked to the fact that associate and full professorships are awarded for life in the Czech Republic, and are not associated with a concrete position at a given institution.

Although the conditions for launching an academic path are becoming more complicated, increasingly more emphasis is placed on research excellence. As has been mentioned in Chapter 2, the ideal model of the academic career is a gradual progression from doctoral and post-doctoral fellowships to the position of group leader. While this is mainly true for career paths in the natural sciences, especially the biosciences, it influences the understanding of what comprises an excellent academic career path in all fields in general because Czech science policy uses natural sciences standards as the norm, also apparent in the assessment system for scientific work. Academics in the field of social sciences and humanities are not necessarily expected to become a “group leader” or

department head in order to continue their academic career, but they are expected to publish and be mobile.

The main features of the ideal path are linearity and progression. Progression is complicated by the fact that there are very few leadership positions, and anyway not all early-career researchers are keen to hold such a position (which tend to be associated with administrative burdens rather than research; see Cidlinská, Linková 2013). However, the system often does not allow alternative career paths, especially in some fields (e.g., biosciences). If an early-career researcher does not aspire to a leadership position, the question is what future he or she can have in research? Linearity is most problematized by the system of short-term contracts linked to grant funding because researchers can easily find themselves unemployed after the completion of such a contract. Linearity is also threatened by the gradually increasing demand for international mobility of doctoral and especially postdoctoral fellows. Return grants are not common in the Czech Republic. Early-career researchers thus find themselves in the paradoxical situation that the more a linear research path is expected of them, the more difficult it is to achieve.

As noted in the preceding chapters in this book, the ideal career path is strongly gendered (Acker 1990). It presupposes a worker whose private life does not affect his/her work path and who can concentrate solely on work performance. Although many men's professional paths diverge from this notion, the demand on linearity puts women at a particular disadvantage because it is primarily women who interrupt or slow down their career progress in order to care for young children (see Chapter 6). The fact that the current changes in the conditions for research have greater adverse effects on the early careers of women than men is also reflected in women's higher rates of attrition from academia (OECD 2010).

Methodology

Our analysis is based on an online quantitative questionnaire survey with former academics who have left an academic or research position

at a public institution in the Czech Republic in the last 10 years. This interval was chosen with a view to capturing the motivations for exiting an academic career since the Czech Republic launched neoliberal reforms in the research sector. As it turned out, a large majority of the respondents of the survey (93.2%) left research after 2008 and over 80% after 2011—that is, at a time when the impact of the reforms became most pronounced. For the purposes of our study we defined “exits from academia” as a termination of a work contract¹¹⁴ at a teaching or research position at a public research or higher education institution. The target group thus also included people who left an academic position but remained in academia and moved, for example, to infrastructural or administrative positions (e.g., project managers, administrative positions at faculties, especially in research and development departments). The sample did not include people who retired or went on maternity and parental leave. However, it included the cases of people who left due to the end of a fixed-term contract on a grant project during parental leave. Inclusion in the research sample was contingent upon the person having completed tertiary education at Master’s level and having worked at a research or academic position for at least six months. If someone left academia before the completion of his or her doctorate they were included only in if they were employed as a researcher or a teacher.

Contacting the target group of former academics turned out to be rather complicated because it was impossible to contact them directly. There is no way of knowing where those leaving academia go as no system formally records this information. We had to contact this group through intermediaries – particularly academics. Contacts to more than 32 000 academics currently working at Czech public research and higher education institutions were collected through institution websites. We addressed them with a request to forward the link to our online

114 We included all types of work contracts—i.e., agreements on work performance, agreements on activity performance, as well as fixed-term and unlimited work contracts because the use of these types of contracts differs between individual institutions.

questionnaire or to provide a contact if they knew of anyone who fitted the target group. Over 2,000 people answered the email, of whom 297 forwarded the email with the link to their former colleagues, and 215 sent tips for potential respondents. A further 325 people replied that in the last 10 years no one at their institution left other than to retire or go on parental leave. The rest of the responses were questions about the research, etc. The data collection for the survey was therefore demanding in terms of time and administration, and was conducted between the beginning of 2013 and July 2014. The survey was viewed by 1,303 people, of whom 737 completed the questionnaire.¹¹⁵

We are aware of the fact that our sample might be biased due to the sampling method, but the composition of the sample indicates that it may provide a rough idea about the characteristics of the people who have left public research in recent years, their motivations, jobs where they moved to and their current work conditions. In disciplinary and institutional terms, our sample approximates the composition of the academic population in Czech public research (CZSO 2013). One of the limitations of the sample could be that it may tend to include people for whom an exit from academia was successful while those who have encountered serious problems after leaving may not want to go back to revisit their past. Thus, the target group's current work situation may appear to be more optimistic than if less-satisfied respondents were included in the sample, too. Since this group of people has not been studied in depth in the Czech Republic yet, there is no referential data with which we could compare our results.

Who is leaving academia?

The composition of our sample indicates roughly who is leaving academia (both from teaching and research positions) in the CR. Men constituted

¹¹⁵ Most people who did not complete the questionnaire were filtered out by the first questions—i.e., they did not meet some of the criteria for inclusion in the sample.

a majority of the research sample (62%), with women making up 38%. Compared to the proportion of women among researchers in the Czech Republic, which reached 28.3% in 2013 (Tenglerová 2015: 14), the proportion of women in our sample is slightly higher. Most of the respondents left academia not long after completing their doctorate or during their doctoral studies. The most frequent group in the sample were doctorate holders (47.2%), followed by those who left before they completed their doctorate (37.2%). While we are aware of the limits given by the methodology of the data collection, the relevance of our sample can be gleaned from the fact that its composition corresponds to the findings from other research studies (see e.g., Jaffe and Park 2003, Kidd and Green 2006, Morris and Rip 2006, MORE 2010). The greatest attrition of academics occurs in junior positions, which are the most uncertain, and at the same time the most demanding. The age composition of our sample corresponds to these findings as well. The age of the respondents vary between 25 and 63 years of age. The average age was 37.5 years, and the age group of 25–30 years was the most represented (43.9 %). 78.2% of women's and 83.3% of men's exits from academia occurred by the age of 40. Probably related to the low age at the time of leaving academia is the fact that most of the respondents (both women and men) did not have children at this point (only 37.9% of respondents had children at the time they left academia: 32.4% of women and 36.1% of men).

Related to age and academic title is the position from which people were leaving research. In the Academy of Sciences and public research institutions these were most often from doctoral fellow positions, and at higher education institutions, assistant professors positions. Only 3.6% of respondents left their academic careers from the position of senior researcher, and a negligible portion left the positions of associate and full professor (see Table 1). It can therefore be surmised that if people overcome the initial period of instability on extremely short-term contracts, it is likely that they will stay in academia.

In our sample people mostly left from public higher education institutions (73.8%), followed by a wide margin of those leaving the Academy

of Sciences (20.8%). Exits from other public research institutions were marginal (5.4%). This sample composition broadly corresponds to the institutional makeup of researchers in the Czech Republic.

Table 1: Position at the time a person left an academic institution

		Women	Men	Total
Academy of Sciences	Doctoral fellow	36.6	40	38.7
	Postdoctoral fellow	13.1	10.8	11.7
	Researcher	10.5	10.8	10.7
	Senior researcher	2.6	3.6	3.2
higher education institutions	Instructor	8.5	6.8	7.4
	Assistant	11.1	10	10.4
	Assistant professor	27.5	32.8	30.8
	Associate professor	2	4	3.2
	Full professor	0.7	0.8	0.7
	Research and Development pedagogical staff	3.3	8.4	6.5
	Researcher	14.4	22.8	19.6

N=737, Note: Respondents could choose multiple answers; in bold are those items in which the greatest differences between men and women were identified¹¹⁶; Source: Leaving Academia 2014

As for working conditions, a large proportion of our respondents worked part-time (37.2 %), most of these involuntarily; 56.1% of respondents stated the reason for working part-time as the fact that their employer did not offer them a full-time job. A large portion of the respondents also stated that it was a secondary occupation for them (22.3%), which also probably made their transition out of academia easier.

Academic work as a secondary occupation is typical in the Czech Republic for doctoral fellows because the monthly stipend does not

¹¹⁶ In view of the fact that our sample is constructed through a certain degree of self-selection, we refrain from testing statistical significance and rather factually assess the differences

reach the minimum wage. It is therefore customary for doctoral fellows to work outside academia in order to cover their living costs, and doctoral studies thus become more of a leisure time activity done in the evenings and on weekends rather than their main occupation. Apart from the prolongation of the period of study, this often leads to the failure to complete the doctorate and the subsequent exit from an academic career. The “mortality” of doctoral fellows in the Czech Republic is between 25%–45% (Technopolis Group 2011b: 56).

Of our respondents, 31% had experience with the accumulation of jobs in academia; most often these were postdoctoral fellows and assistant professors (39%); 14% of them accumulated various contracts even when they worked full-time at one institution. It can be expected that such work exertion causes stress and time strain.

Most respondents were employed on temporary contracts (63.4%), which is most common in the Czech academic environment.¹¹⁷ Among the 23% of respondents who exited from an unlimited contract, they mostly left a higher education institution rather than other workplaces (see Tables 2 and 3). Among respondents from the Academy of Sciences, unlimited contracts occurred in a minimal number of cases, which points to the higher formal work security in higher education compared to public research institutions. This greater security is linked to the fact that positions at higher education institutions often involve teaching, which is covered with a budget distributed according to the number of students,

117 Academy of Sciences and higher education institution use an exemption from the law which allows employers to sign temporary contracts no more than three times in a row and each contract for a period no longer than three years. They employ the exception in the Labour Code (Labour Code § 39) that is based on “serious operational reasons or reasons relating to the specific nature of the work” that prevent the employer from providing a contract for an indefinite period of time (Špondrová 2014: 48–9). Academic institutions argue that in conditions of long-term low levels of institutional funding and in the interest of efforts to prevent the retention of unproductive researchers in academia, temporary contracts are necessary.

while in the Academy of Sciences positions are covered largely or fully with grant money (or details see Chapter 3).

Women's work positions at the time of leaving were even less stable than men's (see Table 2). Particularly among women it was no exception to work on short-term agreements such as agreements on work performance or agreements on activity performance (9.6% of women and 4.9% of men). These facts can suggest that in line with foreign studies (RSC 2002, 2008a, 2008b; Preston 2004; MORE 2010; Kahlert 2010; Goulden et al. 2011; Levine et al. 2011) the work position of women in academia is less stable than that of men.

Table 2: Type of contract at the time a person left an academic institution

	Women	Men	Total
Fixed-term work contract	65.8 %	62.0 %	63.4 %
Unlimited-term work contract	19.2 %	24.9 %	22.8 %
Work agreements	9.6 %	4.9 %	6.6 %
Stipend	4.1 %	7.3 %	6.1 %
Other (e.g., self-employed)	1.4 %	.8 %	1.0 %

N=737; Source: Leaving Academia 2014

Table 3: Type of work contract at the time of exit from an academic institution, by type of academic institution

	Academy of Sciences of the Czech Republic	Public and private higher education institutions
Fixed-term work contract	75.8 %	60.0 %
Unlimited-term work contract	18.2 %	23.7 %
Work agreements	1.0 %	8.5 %
Stipend	3.0 %	7.1 %
Other (e.g., self-employed)	2.0 %	0.7 %

N=737; Source: Leaving Academia 2014.

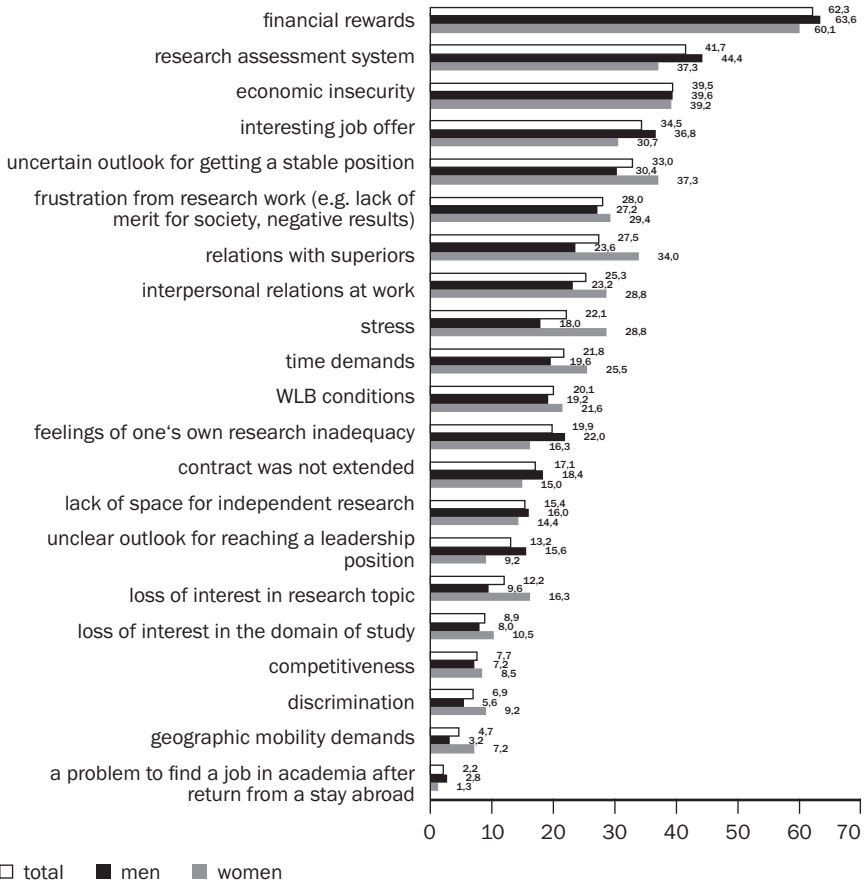
To sum up, those who prevailed in our sample were young people between 25 and 30 years of age who left doctoral fellow and assistant professor positions where they were working on fixed-term contracts, often (involuntarily) on a part-time basis. These findings suggest that these characteristics are highly likely to be linked with a greater risk of attrition from academic research (cf. Technopolis Group 2011b).

Why are people leaving their academic positions academia?

The five most frequently stated reasons for leaving an academia was the salary offered (63.6% of men and 60.1% of women), economic precarity including grant funding or fixed-term contracts (39.6% of men and 39.2% of women), and uncertain outlook with regards to a permanent position (30.4% of men and 37.3% of women) (see Figure 1). This probably reflects the fact that a large portion of the respondents involuntarily worked part-time and for fixed time periods, and were located on the lowest rungs of the hierarchy. A large portion of people stated among their main reasons for leaving was the research assessment system (44.4% of men and 37.3% of women). This may be related to the fact that the Czech research assessment system is very simplistic (for details see Chapter 2). It focuses on individual performance rather than a complex assessment of teams which can negatively affect the workplace atmosphere (Technopolis Group 2011b: 32–35). This can significantly influence the decision to leave academia.

Another frequently-cited reason for leaving was receiving an attractive job offer, which provided the impulse to leave for 37% of men and 31% of women. Our findings are in line with the results of previous studies (e.g., RSC 2002, 2008a, 2008b; Preston 2004; Jaffe and Park 2003; Kidd and Green 2006; MORE 2010; Morris and Rip 2006), which show that low income, economic insecurity, perceived lack of professional opportunities, notions of the ideal academic path, and a high degree of competitiveness were among the most important motives for leaving academia.

Figure 1: Subjective reasons to leave an academic position (% of approvals)



N=737; Source: Leaving Academia 2014.

Previous studies show gender differences in researchers' motivations for leaving academia (Zuckerman et al. 1991; Preston 1994, 2004; RSC 2002, 2008a, 2008b, Kahlert 2010; Levine et al. 2011). Dissatisfaction with income prevails among men whereas among women the reasons are more varied. Men tend to stress the influence of their income as crucial

because they often perceive themselves as the primary breadwinners. In contrast, women are inclined to consider their income to be secondary in the family income and place more emphasis on combining work and family commitments. This division is further supported by the gender pay gap (in the Czech Republic¹¹⁸ the GPG is one of the highest in the EU). Therefore, women tend to negatively regard the time demands of the research profession.

In this regard the results of our findings differ partially from the previously mentioned studies. For women in our sample, financial rewards were as important as for men. This may be related to the fact that salaries in Czech academia, and especially in higher education from where three-quarters of the respondents left, continue to be relatively low irrespective of gender.

According to the Czech Ministry of Education, Youth, and Sports the gross monthly salary at a higher education institution in the position of assistant professor—the position from which a majority of the respondents working at universities left—is CZK 33,836 (EUR 1,220) (MŠMT 2013). The salaries of respondents in our sample, however, did not reach this amount. More than half of the respondents worked only part-time and even when we calculated the net income to full-time, it did not reach this amount. When calculated to full-time, at the time of leaving assistants made on average CZK 22,740 (EUR 840)—men CZK 24,036 (EUR 890), women CZK 20,159 (EUR 745)—and their real income from academic activity (i.e., the salary not adjusted to full time equivalent) was on average only CZK 17,774 (EUR 660) with men earning CZK 18,861 (EUR 700), and women CZK 15,238 (EUR 560). Among doctoral fellows who constituted a majority of those who left the Academy of Sciences, the situation was even worse. Their real monthly

118 According to the Eurostat database, the GPG in the CR was 22.5 % in 2015, compared to a GPG of 16.3% in the EU-28. (for complete data, see: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tsdsc340&plugin=1>).

income from academic activity was CZK 11,690 (EUR 430), with men earning CZK 12,837 (EUR 475) and women CZK 10,022 (EUR 370). The average net salary irrespective of the hours worked and position at the time they left was CZK 17,257 (EUR 620) for men and CZK 14,308 (EUR 520) for women. These values are way below the average (CZK 48,392, EUR 1,750) as well as median (CZK 36,389, EUR 1,320) wages of people with tertiary education in the country (MPSV 2014).¹¹⁹ We can thus surmise that rather than being an issue of the main breadwinner, the respondents were faced with the burning issue of covering basic living costs. This could also be gleaned from the finding that less than one-third of all our respondents worked in total on more than one full-time equivalent. Furthermore, only 19.3% of women and 28.4% of men respondents agreed with the statement “my employment provides a sufficient work income”.

Our findings also support the results of the above-mentioned International Audit of Research and Development (Technopolis Group 2011b: 17), which found that Czech academics are less satisfied with their work conditions and financial rewards than people working in other sectors in the Czech Republic and in comparable positions abroad. We also have to take into account that a large portion of our respondents were doctoral fellows who often received only a stipend or were employed on a part-time basis.

It can be assumed that another important reason for the relatively small gender differences in the motivations to leave may be the fact that at the time they left, most of the respondents did not have children. They usually did not find themselves in the difficult situation of having to

¹¹⁹ In 2014 the average monthly wage was CZK 25,686 (EUR 930), the median was CZK 22,847 (EUR 830); for men it was CZK 24,847 (EUR 900), for women CZK 20,552 (EUR 745) (CZSO 2014). It must also be noted that the gender pay gap in the Czech Republic is one of the highest in Europe (Eurostat 2013). For researchers the gender pay gap is the highest among the entire working population in the Czech Republic. On average women professionals in research earn 19.4% less than men and their median salary is 18.1% lower than men's (Tenglerová 2015: 45).

combine work and childcare, which generally impacts differently on the professional paths of women and men (see e.g. Goulden et al. 2011 and Chapter 6 of this book). This explanation is strengthened by other findings from the survey. More than half of the women academics who had children at the time they left stated that they perceived their potential return to academic science after parental leave as rather or definitely difficult. Over 60% of women also stated that their current work position gives them better conditions for combining work and personal life than academia, and 12% would consider returning to academia if their employer actively supported equal opportunities for women and men. Almost 25% of women, compared to only 16% of men, stated that they would not return under any circumstances.

The only items where the differences between women and men were significant were “mobility demands” (which was selected as a reason for leaving by 7.2% of women but only 3.2% of men), “loss of interest in the research topic” (16.3% of women and 9.6% of men), “uncertain outlook for getting a leadership position” (15.6% of men and 9.2% of women), and “stress” (28.8% of women and 18% of men). These are reasons that are strongly linked to the growing demands placed on early-career researchers in terms of flexibility, competitiveness, and time demands of the job.

The lower emphasis women placed on the prospect of moving into a leadership position may be related to their lower degree of identification with the ideal of the academic path or the feeling that they can barely comply with the current demands on leadership positions (Cidlinská, Linková 2013). The higher prevalence of the loss of interest in a research topic among women may also be related to a lack of supervision and attention from supervisors. Previous studies show that one of the reasons for leaving often mentioned by women is the feeling that they are not taken as seriously as their male counterparts and feel less supported by their superiors (Kosoko- Lasaki et al. 2006; McGuire and Reger 2003; RSC 2008a). In addition to stereotypical notions about women’s lesser talents for academic work, there is often the expectation that women

will have children and their work commitment and ambitions will waver; a phenomenon called “the maternal wall” (Smithon and Stokoe 2005; Williams and Dempsey 2014; Caprile et al. 2012: 8). Some supervisors and superiors thus may think that it is not necessary to pay so much attention to women or to entrust them with leadership positions. Therefore, women often do not get informal mentoring (i.e., guidance by more experienced researchers), which is very important at the beginning of the research career in order to define professional goals and their effective achievement as well as building a position in an academic community (Wasburn 2007; Chandler 1996).

Women mentioned significantly more often than men relations with their superiors as a reason to leave academia (34% of women and 23.6% of men) and interpersonal relations in the workplace (28.8% of women and 23.2% of men); a fact which may be related to feelings of being insufficiently appreciated or being overlooked by senior colleagues and leaders. As statistics show, the Czech academic environment is dominated by men (Tenglerová 2017). Since people tend to support those who are similar to them, (Chandler 1996), men superiors tend to support men more than women in the early stages of their careers. In this context women may benefit from the informal support of influential senior colleagues to a lesser degree than men, and this may negatively influence their career prospects.

Various people—various reasons to leave?

To be able to work with the large array of reasons for leaving academia as a whole and to study in detail how the reasons differ among various groups of women and men, we performed a factor analysis which yielded six inter-related factors:¹²⁰ existential insecurity, termination of a contract,

120 Subsequently, the average factor scores were compared according to the following variables: gender, position at the time of exit, type of institution, the percentage of the full-time equivalent worked, age at the time of exit, and the presence of children in the

time demands and stress, interpersonal relations, burnout and academic mobility (see Table 4).

The first factor, **existential insecurity**, was fed by the variables *financial rewards, economic insecurity, uncertain outlook for obtaining a stable work position, and the research assessment system*, and spoke especially to reasons related to economic aspects of the job. It turned out that the tendency toward this factor differed most according to the type of institution, position, and age. This factor played a role especially among those leaving the Academy of Sciences. This can probably be explained by the fact that at the Academy of Sciences jobs are more often linked to concrete fixed-term grant projects and are more contingent upon publication output.

This existential insecurity factor was also particularly important for doctoral and postdoctoral fellows and independent researchers between the ages of 25 and 30, and its significance decreased with growing age. This confirms that the degree of economic insecurity hits people especially at the beginning of their academic career and a significant portion of academics leave research because of this.¹²¹

The second factor, **the termination of work contract**, was primarily fed by the item *work contract not extended*. The only important variable in this factor was the type of institution. It was attributed with more importance by people leaving from the Academy of Sciences than universities, similarly to the existential insecurity factor discussed above.

The third factor, **time demands and stress**, was saturated primarily by the variables *conditions for combining work and personal life, time demands and stress*—items that are related to work-life balance issues. It is not at all surprising that the fact whether respondents had a child at the

family at the time of exit. To determine which differences in averages are significant and factually substantial, we used testing of dependencies using T-tests (in the case of binary variables) or ANOVa (in the case of other variables).

121 According to an OECD study (2010: 13), the Czech Republic ranks among the countries with the highest share of doctorate holders who are unemployed or are employed on a fixed-term contract five years after PhD completion.

Table 4: Results of a factor analysis: subjective results for leaving an academic position

	Financial rewards and economic insecurity	Interpersonal relations	Time demands and stress	Burnout (loss of interest in the field)	Mobility	Termination of contract
Financial rewards	.777	.147	.095	.083		-.105
Economic insecurity (e.g., grant funding, fixed-term contracts)	.787	.125	.057	.006	.103	.004
Loss of interest in the field	-.014	.095	.009	.815	.151	-.124
Loss of interest in the research topic	.100	.108	-.018	.801	-.075	-.040
Frustration from research work (e.g., frequent negative experimental results, absence of visible/tangible impact on world/society)	.478	-.035	.289	.420	-.116	.241
Conditions for combining work and personal life	.040	.216	.768	.077	.051	-.117
Time demands	.212	.127	.778	-.007	.011	-.099
Stress	.160	.368	.616	.123	-.103	.105
Competitiveness of the environment	.188	.415	.223	.073	-.291	.109
Discrimination	-.040	.702	.053	-.051	.034	.120
Mobility demands	-.072	-.114	.458	.022	.587	-.006
Research assessment system	.655	.208	.208	.030	-.069	.016
Problems finding a job in academia after returning from a fellowship abroad	.196	-.028	-.081	-.007	.622	.227
Contract not extended	.116	.195	-.117	-.001	.206	.690
Uncertain outlook for getting a stable work position	.685	.128	.020	.123	.158	.035
Uncertain outlook for achieving a leadership position	.333	.387	-.115	.106	.447	-.334
Lack of space for independent research work	.198	.541	.274	-.103	-.017	-.183
Feelings of one's own research inadequacy	.313	-.075	.263	.445	-.045	.069
Interpersonal relations at workplace	.216	.716	.188	.136	-.105	-.053
Relations with superiors	.195	.713	.070	.171	.078	.077
Interesting job offer	.461	.114	.047	.190	.072	-.518

Factor analysis, Varimax method, KMO test 0.824, percentage of explained variation (for all factors cumulatively) 57 %. Source: Leaving Academia 2014.

time of exiting was the only important variable in this factor (people with children identified with this factor more often than those without children). This correlation was discovered both among women and men.

More substantial gender differences emerged in the fourth factor, **interpersonal relations**, which was fed in particular by items such as *discrimination*, *interpersonal relations in the workplace*, and *relations with superiors*, and reflects the quality of the social environment in the workplace. This factor was especially important for women, people working full-time, and especially those aged 41 to 50 years in more senior positions such as heads of department, and associate or full professors. Differences between the responses of men and women suggest that women more often leave their job because of unsatisfactory interpersonal relations, which may indicate that they experience more conflicts, disagreements, or discrimination at work than men do.

Also more important for women than for men in their decision to leave academia was the fifth factor, **burnout**, fed particularly by items such as *loss of interest in the field*, *loss of interest in a research topic*, and partially also *a feeling of one's own research inadequacy*. This factor was more pronounced among those who left the Academy of Sciences. These types of reasons were most often recorded in the youngest age groups of 25–30 and 31–40. At first sight, it might seem surprising that the burnout syndrome affects primarily the youngest academics. But it is the early-career academics on whom high time demands are placed while their jobs often do not guarantee even an elementary degree of job stability.

In a system of limited financial resources for academic salaries, doctoral fellows in particular are a solution for higher education institutions to cover a large demand for teaching and at the same time show research results (Červinková 2010b: par. 31; Technopolis Group 2011b: 58). At some universities doctoral fellows are expected to work up to 40 hours a week only for a stipend, which is less than the minimum wage. Doctoral fellows are thus *de facto* employees but without employee benefits. The demands of work duties are not reflected in a change

(reduction) of study duties, which often leads to the already-mentioned extension of doctoral studies so typical of Czech doctoral fellows.¹²²

The fact that women in particular tended toward burnout underscores the fact that to succeed in the highly competitive environment and overcome the doctoral and especially postdoctoral period is more challenging for women than for men. This is especially so because this period overlaps with the time when people start families which penalizes predominately women's academic careers (for details see Chapter 6).

The **mobility** factor was fed mainly by items such as *problems finding a job after a return from a fellowship abroad* and *demands on mobility*. This factor as a whole did not record significant differences according to the variables (not even gender). When we focused on each single item it turned out that women in particular mentioned the item "demands on mobility" (3.2% of men but 7.2% of women). Studies performed in the Czech Republic and abroad (e.g., Červinková 2010a; Vohlídalová 2014; Leemann 2010; Ackers 2004) show that academic mobility is perceived as a problem particularly by women, both because of parenthood and because of partnership arrangements (see Chapter 7). In general, it did not appear that academic mobility is a frequent reason to leave academia. This may also be related to the fact that mobility demands are not stringent to the same degree at all Czech academic institutions. It may be then expected that an absence of mobility on a research CV will lead to the slowing down of a research career and negative influence on the opportunities to progress to higher career stages (Ackers 2004), rather than being a reason for people to leave academia.

122 Compared to other countries, the Czech Republic records one of the highest ages (39.5 years of age) of completion of doctoral studies. The longest time to complete a doctorate is in the social sciences, followed by the medical sciences and STEM. The fastest time to completion is found in the agricultural sciences (OECD 2010: 26).

Current work position of the research participants

If the respondents of the survey were not entrepreneurs or economically inactive, they were most often employed in the private sector (62% of women and almost 77% of men). An insignificant proportion of ex-academics in our sample are employed in state administration (10.2% of women and 11.4% of men). Among women in particular there is a greater percentage of those who hold a non-academic infrastructural post at an academic institution (e.g., at rectorates or at research and development departments)— 14.8% of women and 6.9% of men. Women also more often than men work in the non-profit sector (13% of women and 5.1% men), which can be related to the fact that they more often graduate from social-science fields and humanities and can find employment in the non-profit sector. Concerning employment destinations according to fields of research, people in the field of technical sciences most often enter industry and IT; people who left research and pedagogical positions in the medical sciences often stay in medicine (often they are doctors who have given up research activities and started concentrating fully on their medical practice), and academics from the humanities and social sciences work most often in the private sector in services (especially in consulting and banking). Of the survey respondents, 35.6% were employed at their current position at the time of their employment in academia. 46.8% of the respondents (43.9% of women and 48.5% of men) stated that they continued to work in research. This group included people working in IT, electrical engineering, chemical and pharmaceutical industries, and economists preparing analyses for banks.

Most of our respondents assess their current working conditions more positively than the conditions they had during their academic career. A significantly higher share of respondents now work full-time. While 42.5% of women and 34.1% of men were working part-time when they left their academic position, only 17.6% of women and 6.4% of men work part-time in their current job outside academia. Not only have they gained full-time work contracts but they have gained more economic

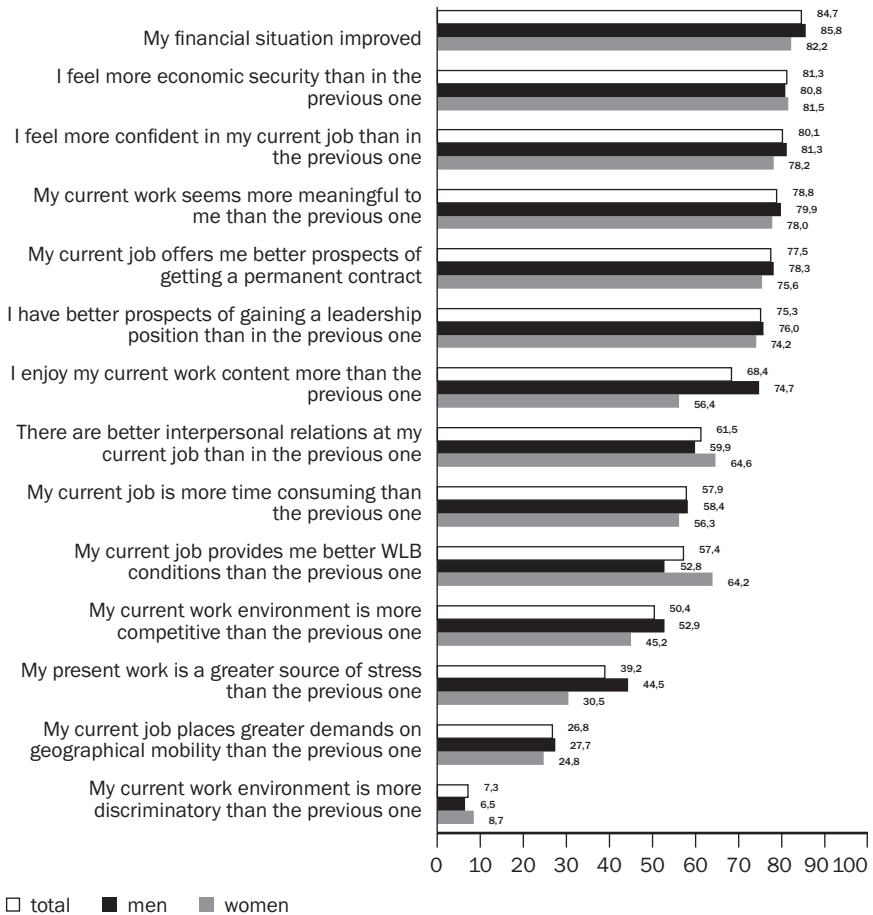
security in their current job. 57% of women and 72% of men work on unlimited contracts while at the time they were leaving academia, only 19.2% of women and 24.9% of men had unlimited contracts. The current job positions of former academics are therefore more stable than their academic positions were, at least in terms of the formal characteristics of their work contracts.

The respondents assessed most positively the shift towards higher financial appreciation and the feeling of greater economic security (more than 80%). Improvements in these terms are represented almost identically across different disciplines and institutions. These findings are in line with previous studies that agree that Ph.D. holders working in the private sector are better paid and have more secure positions than those working in the academic sphere (OECD 2013: 27). More stable job positions are linked to feelings of greater self-confidence in the new job and also to the sense that they perform more meaningful work (around 80%). A high percentage of respondents (over 75%) also agreed with the claim that their current work is more enjoyable and offers them improved prospects of a permanent job. 64% of women and 52% of men said that their current work makes it easier to reconcile their personal and working lives. Respondents disagreed with the claim that their current job is a greater source of stress for them, that it places greater demands on foreign mobility or that the current working environment is more discriminatory (see Figure 2). It therefore appears that most academics who have left academia perceive their current work situation as a clear improvement.

Conclusions

In this chapter we focused on the people academia loses and why. More widely, we are contributing to the debate about the conditions offered by Czech science and higher education for the professional development of early-career researchers and what this might mean for the future form and landscape of Czech academia. At the same time, the fact that it is the ambition of Czech research to meet the “Western” standards of academic

Figure 2: Former academic work vs. current job situation (% of approvals)



Source: Leaving Academia, N=737

research and the increasing emphasis on international cooperation in research, our findings also contribute to the debate on the development of the research population in an increasingly globalized research landscape.

To answer the question *who are the people who leave academia* we can say based on our data that the largest group in our sample was young people at the beginning of their academic career. Most often they left

while working as a Ph.D. candidate, post-doctoral researcher (at public research institutes) or as an assistant professor (at higher education institutions). Their working conditions in academia were not very favourable (they mostly worked part-time and had fixed-term contracts).

The main reasons for leaving were low financial rewards, economic insecurity associated with short-term funding and poor prospects of gaining a stable position, and unsatisfactory conditions for professional development. Another frequently cited reason was the system of research assessment that leads to ever-increasing demands placed on academics.

In all these respects, the former academics in our sample experienced major improvements after getting a new job. They are more satisfied with their current working conditions; they mentioned that they have a higher and more secure income and a more stable position which offers better career prospects. In particular, women stressed that their current job provides them with a better work-life balance conditions than their academic work.

Although we are well aware of the fact that our data may be biased (we believe that representative research of such a target group is currently not feasible in the CR), we are convinced that our findings approximately reflect the nature of the population of ex-academics. Factors contributing to our confidence include 1) the number of similarities in our findings with previous research into the topic; 2) a wide range of academic institutions addressed for the purpose of our survey; 3) the fact that our sample roughly reflects the overall composition of Czech academics regarding type of the institution and discipline.

The situation of early-career researchers in the Czech Republic is not unique. Foreign studies warn, too, that if the conditions of the academic labour market continue in the current direction, a career in research will be increasingly less attractive to talented people. A Report of the US President's Council of Advisors on Science and Technology (OSTP 2004 cited in OECD 2013: 26) underscores the causes of the deteriorating attractiveness of employment in research such as the long study period required for professional training and the subsequent uncertain period

of short-term postdoctoral work contracts as a condition for working towards a more stable position (foreign research studies show that people obtain a more stable position in the private sector over a shorter time period after the completion of a doctorate than in academia; (NISTEP 2011 cited in OECD 2013: 34). Some countries therefore strive to increase the attractiveness of the research profession primarily by creating more friendly conditions for the launch of young researchers' careers, for example by increasing doctoral stipends and the number and volume of postdoctoral fellowships, by increasing the salaries of early-career researchers, or by improving the infrastructure (e.g., by providing quality career consulting or targeted support for researcher- parents) (OECD 2010: 18).

Special attention is paid to the position of women researchers as well because it is they who have swelled the numbers of doctoral programme graduates in the last two decades, as is the case in the Czech Republic. As is clear from our analysis, the outset of the research career is even more complicated for women than for men because it coincides with the period when they often care for small children, which in the current conditions means an ever-smaller chance of securing a stable position.

In the Czech Republic, policies both actively supporting research careers of women (see Chapter 4) and attending to human resource development are lacking. What dominates the research landscape instead is the discourse of excellence and survival of the "fittest", which is strongly gendered (as Chapter 5).

Given the results of our research, it is legitimate to ask, who are the "fittest"? In other words, who can flourish and succeed in the current system? The conditions, it appears, tend to support individuals with high self-confidence, individualists with leadership ambitions, and especially those who are already secure in the academic system such as senior academics who established their expertise and position before the neoliberal transformation of working conditions in sciences began. We therefore argue that if no change occurs in how the issue of human resources in research is dealt with, the Czech research population could

gradually become homogenized, especially in terms of gender, age, and socio-economic status thus doing the creativity of Czech science a significant disservice..

Literature

- Acker, J. 1990. 'Hierarchies, Jobs, and Bodies: A Theory of Gendered Organizations.' *Gender & Society* 4: 139–158.
- Ackers, L. 2004. 'Managing Relationships in Peripatetic Careers: Scientific Mobility in the European Union.' *Women's Studies International Forum* 27 (3): 189–201.
- Bauder, H. 2006. 'The Segmentation of Academic Labour: A Canadian Example.' *ACME: An International E-Journal for Critical Geographies* 4 (2): 228–239.
- Caprile, M., E. Addis, C. Castaño, I. Klinge, M. Larios, D. Meulders and S. Vázquez-Cuperio. 2012. *Meta-analysis of Gender and Science Research: Synthesis Report*. Luxembourg: Publications Office of the European Union.
- Cidlinská, K. and M. Linková. 2013. 'Ekonomie příslibu: pracovní nejistota a gender na počátku vědecké dráhy.' Pp. 51–80 in *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy*, edited by M. Linková, K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. Prague: Sociologické nakladatelství (SLON).
- Chandler, C. 1996. 'Mentoring and Women in Academia: Reevaluating the Traditional Model.' *NWSA Journal* 8 (3): 79–100.
- Červinková, A. 2010a. '„Postdokovat po světě“: Genderové politiky akademické mobility.' *Gender, rovné příležitosti, výzkum* 11 (1): 49–59.
- Červinková, A. 2010b. 'Nejistá sezona: Spravování doktorského studia a ustavování počátku akademické dráhy.' *Biograf* 51: 64 paragraph. (<http://www.biograf.org/clanek.php?clanek=v5101>)
- CZSO. 2014. *Průměrné mzdy – 4. čtvrtletí 2014*. (<https://www.czso.cz/csu/czso/cri/prumerne-mzdy-4-ctvrtleti-2014-truea9fbwn>).

- CZSO. 2007. *Profesní růst držitelů doktorských titulů (doktorandů) – výsledky pilotního šetření*. (nepublikovaný text získán na vyžádání od ČSÚ).
- CZSO. 2013. *Ukazatele výzkumu a vývoje 2012*. (https://www.czso.cz/csu/czso/9601-13-r_2013-0303).
- Dudová, R. and H. Hašková. 2010. 'Diskursy, instituce a praxe péče o děti do tří let ve francouzsko-české komparativní perspektivě.' *Gender, rovné příležitosti, výzkum* 11 (2): 36–47.
- Eurostat. 2013. *The Unadjusted Gender Pay Gap, 2013 (1) – Difference between Average Gross Hourly Earnings of Male and Female Employees as % of Male Gross Earnings*. (<http://goo.gl/JL7qsd>).
- Goulden, M. A. and K. Frasch. 2011. 'Keeping Women in the Science Pipeline.' *Annals of the American Academy of Political and Social Science* 638: 141–162.
- Jaffe, S. and S. Park. 2003. 'Postdocs: Pawing Out of Purgatory.' *The Scientist* 17 (6): 46–48.
- Kahlert, H. 2010. 'Fragile Career Choices: (Gendered) Risks in the Transition from the Dissertation to the Post-doc-phase.' Paper presented on conference *Beyond the Leaky Pipeline: Future Challenges for Research on Gender and Science*. 19–20 October 2010, Brussels.
- Kidd, J. M. and F. Green. 2006. 'The Careers of Research Scientists: Predictors of Three Dimensions of Career Commitment and Intention to Leave Science.' *Personnel Review* 35 (3): 229–251.
- Kosoko-Lasaki, O., R. E. Sonnino and M. L. Voytko. 2006. 'Mentoring for Women and Underrepresented Minority Faculty and Students: Experience at Two Institutions of Higher Education.' *Journal of the National Medical Association* 98 (9): 1449–1459.
- Labor Code § 39. Zákoník práce paragraf § 39. (<http://www.sbirkazakonu.info/zakonik-prace/pracovni-pomer-na-dobu-urcitou.html>).
- Leemann, R. J. 2010. 'Gender Inequalities in Transnational Academic Mobility and the Ideal Type of Academic Entrepreneur.' *Discourse: Studies in the Cultural Politics of Education* 31 (5): 605–625.

- Levine, R. B. et al. 2011. 'Stories from Early-Career Women Physicians Who Have Left Academic Medicine: A Qualitative Study at a Single Institution.' *Academic Medicine* 86 (6): 752–758.
- Linková, M. 2014. *Disciplining science: The impacts of shifting governmentality regimes on academic research in the natural sciences in the Czech Republic*. Charles University in Prague, Faculty of Social Sciences (Dissertation Thesis).
- Linková, M. 2009. 'Ne každý úspěch se počítá: Excellence a genderování vědecké dráhy v přírodních vědách.' Pp. 72–99 in *Akademické poznávání, vykazování a podnikání. Etnografie měnící se české vědy*, edited by T. Stöckelová. Prague: Sociologické nakladatelství (SLON).
- McGuire, G. M. and J. Reger. 2003. 'Feminist Co-mentoring: A Model for Academic Professional Development.' *National Women's Studies Association Journal* 15 (1): 54–72.
- MORE. 2010. *Study on Mobility Patterns and Career Paths of EU Researchers*. Brussels. (http://ec.europa.eu/euraxess/pdf/research_policies/MORE_final_report_final_version.pdf).
- Morris, N. and A. Rip. 2006. 'Scientists' Coping Strategies in an Evolving Research System: The Case of Life Scientists in the UK.' *Science and Public Policy* 33 (4): 253–263.
- MPSV. 2014. *ISPV – Informační systém o průměrných výdělích. Aktuální výsledky podle zaměstnání za 1. pololetí 2014*. (<http://www.mpsv.cz/ISPVcharavypis.php>).
- MŠMT. 2013. *Statistická ročenka školství – Zaměstnanci a mzdové prostředky 2013*. (<http://www.msmt.cz/vzdelavani/skolstvi-v-cr/statistika-skolstvi/statisticka-rocenka-skolstvi-zamestnanci-a-mzdove-prostredky-4>).
- MŠMT. 2014. *Statistická ročenka školství – Vývojová ročenka 2004/05–2013/14. Vývoj terciárního vzdělávání*. (<http://www.msmt.cz/vzdelavani/skolstvi-v-cr/statistika-skolstvi/vyvojova-rocenka-skolstvi-2003-04-2013-14>).

- OECD. 2010. *Careers of Doctorate Holders: Employment and Mobility Patterns. Statistical Analysis of Science, Technology and Industry.* STI Working Papers 2010/4. (<http://www.uis.unesco.org/ScienceTechnology/Documents/44893058.pdf>).
- OECD. 2013. *Careers of Doctorate Holders: Analysis of Labour Market and Mobility Indicators.* STI Working Papers 2013/4. (http://www.oecd-ilibrary.org/science-and-technology/careers-of-doctorate-holders_5k43nxgs289w-en).
- Preston, A. E. 1994. 'Why Have All the Women Gone? A Study of Exit of Women from the Science and Engineering Professions.' *American Economic Review* 84: 1446–1462.
- Preston, A. E. 2004. *Leaving Science: Occupational Exit from Scientific Careers.* New York: Russel Sage Foundation.
- Prudký, L., P. Pabian and K. Šima. 2010. *České vysoké školství. Na cestě od elitního k univerzálnímu vzdělávání 1989–2009.* Prague: Grada.
- Robinson, G. F. W. B. 2009. 'The 41st Chair: Defining Careers in the Current Biomedical Research Environment.' *Journal of Research Administration* 40 (1): 101–131.
- RSC. 2002. *Recruitment and Retention of Women in Academic Chemistry.* (http://www.rsc.org/images/Recruitment%20and%20Retention%20of%20Women%20in%20Academic%20Chemistry_tcm18-12807.pdf).
- RSC. 2008a. *The Chemistry PhD: the Impact on Women's Retention.* London: Royal Society of Chemistry. (http://www.rsc.org/images/womensretention_tcm18-139215.pdf).
- RSC. 2008b. *The Molecular Bioscience PhD and Women's Retention: A Survey and Comparison with Chemistry.* (http://www.rsc.org/images/MolecularBiosciences08_tcm18-139859.pdf).
- Stöckelová, T. 2009. *Akademické poznávání, vykazování a podnikání. Etnografie měnící se české vědy.* Prague: Sociologické nakladatelství (SLON).

- Šima, K. and P. Pabian. 2013. *Ztracený Humboldtův ráj. Ideologie jednoty výzkumu a výuky ve vysokém školství*. Prague: Sociologické nakladatelství (SLON).
- Špondrová, P. 2014. *Právní aspekty postavení žen a mužů ve vysokoškolském prostředí a ve veřejných výzkumných institucích v České republice*. Prague: Sociologický ústav AV ČR, v.v.i. (<http://nkc.cz/files/pravni-aspekty-postaveni-zen-a-muzu-pdf.pdf>).
- Technopolis Group. 2011a. *International Audit of Research, Development & Innovation in the Czech Republic. Final Report. Synthesis Report*. Brighton: Technopolis Limited. (http://www.technopolis-group.com/wp-content/uploads/2011/09/1315-International-Audit-CR-Final-report_Synthesis.pdf).
- Technopolis Group. 2011b. *International Audit of Research, Development & Innovation in the Czech Republic. Final Report – 7. Human Resources in R&D*. Brighton: Technopolis Limited. Retrieved 26 June 2015 (file:///C:/Users/katerina.cidlinska/Downloads/Intl-Audit_Final-Report_7-HR-in-RDI%20(2).pdf).
- Tenglerová, H. 2015. *Postavení žen v české vědě a aktivity na jejich podporu. Monitorovací zpráva za rok 2014*. Prague: Sociologický ústav AV ČR, v.v.i.
- Tenglerová, H. 2017. *Postavení žen v české vědě a aktivity na jejich podporu. Monitorovací zpráva za rok 2015*. Prague: Sociologický ústav AV ČR, v.v.i.
- Vastag, B. 2006. 'Increasing R01 Competition Concerns Researchers.' *Journal of the National Cancer Institute* 98 (20): 1436–1438.
- Vohlídalová, M. 2013. 'Vědkyně mezi dvěma mlýnskými kameny: o podmínkách kombinace pracovního života a rodičovství ve vědecké profesi.' Pp. 99–126 in *Nejisté vyhlídky. Proměny vědecké profese z genderové perspektivy*, edited by M. Linková, K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. Prague: Sociologické nakladatelství (SLON).
- Vohlídalová, M. 2014. 'Academic Mobility in the Context of Linked-lives.' *Human Affairs* 24 (1): 89–102.

- Wasburn, M. 2007. 'Mentoring Women Faculty: An Instrumental Case Study of Strategic Collaboration.' *Mentoring & Tutoring* 15 (1): 57–72.
- Williams J. and R. Dempsey. 2014. *What Works for Women at Work*. New York: New York University Press.
- Zuckerman, H., J. Cole and J. Bruer (eds.). 1991. *The Outer Circle: Women in the Scientific Community*. New York: Norton.

Conclusions: Consequence of Neoliberal Transformations of the Research Profession for Gender Equality in Research

Marta Vohlídalová, Marcela Linková,
Blanka Nyklová

In this book we have explored various aspects of the contemporary transformations of research and academic institutions, and career paths in research. Many of the trends we analyse can be observed primarily in the natural sciences from where they percolate to other scientific domains, where they spread perhaps with lesser velocity but all the more distressfully. In various fields of research these shifts take a different form and have different impacts. In the Czech Republic their impact is more escalated in the sector of public research institutions than in higher education. Many changes in the academic environment in the Czech Republic may be recent, whereas they are more stabilized in other countries where these transformations also attract more research, and political as well as civil attention (Felt 2009; Riegraf, Aulenbacher, Kirsch-Auwärter and Müller 2010).

One of the goals of this book has been to show the merits of studying localized practices as they are affected by larger geopolitical influences. While the book contributes another piece to the global picture of the changes going on in academia and their impact on the lives of researchers as well as on the quality and focus of the research conducted, we see its value as lying in something greater than that, as we have tried to show in the above pages that serious and critical attention needs to be devoted to the impact of geopolitics. Only then can local developments be understood not just as particular cases of the impact of neoliberal-inspired reforms, but also as cases that can shed some light

on the possible developments in other, including “central”, geopolitical locations. The lack of local mobilisation on the part of women researchers combined with a relatively conservative gender order and hostility/indifference to measures for implementing gender equality in research turn a mere “case study” into an opportunity—an opportunity to explore the gendered effects of neoliberal-inspired reforms in an environment where gender equality is not a universally embraced value and where it has faced a backlash since the 1960s. This is all the more important in a world where politics and its appropriate role in society have been redefined. We believe it would be unfortunate to miss and ignore this opportunity by looking at the developments described herein as representative of just a marginal/peripheral case that is only unilaterally dependent on developments in the “centre”. Moreover, the analyses presented in our book make it evident once more that supporting the spread of neoliberal-inspired reforms is an endeavour accompanied by high ethical risks that are not that often recognized. It is an overview of some of the detrimental effects that makes this visible.

In conclusion, we will therefore consider the gender implications and consequences of some of the changes in the academic environment that we deem especially representative of local developments and their underlying factors. These considerations do not necessarily describe the situation as is but rather reflect on potential future developments and implications. Firstly, a typical feature of the research and academic professions is a growing precarization and casualization which goes hand in hand with growing competition and related demands on performance and temporal and spatial flexibility. The so-called secondary labour market is growing in size at the expense of the primary labour market. Secondly, these norms and demands related to the research profession and the ideal of the academic researcher in the Czech context stand in sharp contrast to the design of social and family policies, the division of gender roles in families, and expectations related to parenthood and the performance of “proper” motherhood. Thirdly, the criteria of excellence, though often presented and perceived as impartial and meritocratic,

embody notions and expectations that are gendered and exclude women at several levels—the symbolic level as well as the level of organizations and institutions. Fourthly, gendered problems facing women and men researchers that significantly affect their possibility of building a scientific and academic career should be addressed by research and development policies. This is not the case, and while national strategic documents or policies may now mention the issue of women's under-representation in research, they do not contain any concrete objectives and measures to change the situation. The only strategic document in the country to address the issue, the Government Strategy for the Equality of Women and Men 2014–2020, remains solely on paper, with nothing being done to implement the objectives and measures contained therein. We will now focus on some key issues resulting from our analyses.

Precarity and uncertain working conditions

Career outlook in research is, especially for the younger generation of women and men scientists, permeated with insecurity. Increasing numbers of researchers across Europe are being confronted with career insecurity, albeit in historically different academic organizational contexts (Berg, Huijbens and Larsen 2016; Sigl 2012; Peacock 2016; Shore 2016). This insecurity is linked to shifts in the workings of research and especially funding, which is increasingly distributed competitively. The increasing competition does not concern only financial resources: as Linková (2014) argues, the neoliberal transformation of research turns all tangible items that can be used to enhance performance into resources (from machines, samples, or clusters to office space and students).

The establishment of the normative model of the work path which should proceed from doctoral studies through a postdoctoral position to researcher is related to the disappearance of fixed positions of independent researchers (i.e., senior researchers who have their own research topic, train students and fellows, but are not lab leaders). We call this process a shift from dynastic to dynamic labs and institutions

(Linková and Červinková 2013; Linková 2014). Permanent positions of independent researchers are being replaced with uncertain postdoctoral positions, which by their nature are temporary because they are intended to function as a junction between doctoral studies and an independent position of the principle investigators. However, the number of team leadership positions is limited and to secure such a position places very high demands on researchers. Statistics (Tenglerová 2017) attest that it is rather men than women who can live up to these demands.

The system of research work and the normalization of only one career model which rests in a linear, uninterrupted, and upward path is built on the notion of a masculine subject of the labour market, who can and wants to dedicate all his time and energy to work because he is not bound by the commitments following from his wider social and family relations (Acker 1990). It is therefore not surprising that this work organization appears to be particularly problematic for women who strive to combine work commitments with childcare as well as men who do not live in a traditionally organized family.

Our analyses—both interviews with early-stage women researchers in M. Vohlídalová's Chapter 6 dedicated to the shifts in women's work paths in science and in K. Cidlinská's and M. Vohlídalová's Chapter 9 analysing why people exit scientific careers—show that for many researchers the extreme degree of insecurity and the unrelenting and for some unacceptable level of competition are reasons why some scholars more or less voluntarily leave the academic sector. This includes highly talented women researchers with promising early careers and excellent research results.

Both men and women are faced with growing precarity of work positions, but it may be more complicated for women to succeed under these conditions. It is particularly women researchers who try to plan for parenthood in a system of temporary contracts often limited to the duration of a grant. In view of the fact that the protection of a work position during maternity and parental leave in the Czech Republic applies only while the work contract is in force, many women do not enjoy the

protection that most other women in regular employment have in the Czech Republic (and not only those with higher education). While there are no statistics on precarious work in the Czech Republic, the repeated renewal of fixed-term employment contracts is curbed in the Czech Republic and people with higher education usually have, thanks to their position in the work hierarchy, better work conditions including stable work contracts than people with lower education. We can see that at greater risk are particularly vulnerable groups of employees: highly-educated women academics working in an increasingly competitive academic environment on the one hand and less privileged and less educated women and men on the other.

An analysis of the wellbeing of people employed in higher education institutions (see Chapter 8 by K. Zábrodská et al.), nevertheless, suggests that such working conditions are more typical of public research institutions and primarily the Czech Academy of Sciences. It appears that the degree of precarization at universities has not reached the same levels as in public research institutions. This may be due to the fact that a portion of funding for higher education institutions is derived from a student-count formula and therefore it is not necessary to compete for this funding, at least among people working on a regular full-time contract. As Chapter 8 by Zábrodská et al. shows, the academic work environment reported by Czech faculty evinces relatively few symptoms of the neoliberal transformation; instead, respondents reported relatively low job insecurity, low quantitative work demands and low levels of stress. However, the portrayal of the Czech university environment might have been less positive if the sample included more part-time faculty, faculty contracted to teach a specific class (i.e. irregularly employed), and PhD students who often significantly contribute to the performance of their academic departments without necessarily working on a contract because as students they receive a doctoral stipend and teaching may be one of the requirements of their position or it may be remunerated with an extra stipend.

Even in the environment of higher education, nevertheless, it transpires that women faculty are unequally positioned and have less secure positions than their male counterparts: women faculty were over-represented at the lower academic ranks, received lower average salary, and spent more time on (less valued) teaching and less time on (more valued) research than men. They perceived their work environment less positively than men, as reflected in their lower reported influence, higher job insecurity, less recognition, and less positive perception of social community and leadership. At the level of organizational climate, women faculty felt that there was more pressure to produce and less autonomy than reported by men. Finally, women faculty reported lower levels of overall job satisfaction and satisfaction with salary and work prospects.

The disappearance of positions of independent researchers, the dynamization of the academic labour market and the general increase in job precarity means an expansion of the secondary academic labour market which is typical of a high degree of negative flexibility and poor working conditions. In contrast, the primary labour market with stable positions and a high degree of security is starting to crumble and there is a danger that it will become increasingly casualized. Today, precise data is not available in the Czech Republic which could answer the question as to how gendered these two segments of the academic labour market are. Attention will need to be paid to this in further research studies. At least in higher education it is clear that women tend to accumulate in lower academic ranks where a higher occurrence of uncertain working positions may be expected, while men clearly predominate among associate and full professors who, in the Czech context, generally have stable positions and income; this is partially so because associate and full professors are crucial for higher education institutions because of the accreditation of study programmes (see Chapter 3 by K. Šima and P. Pabian).

Mobility

The masculine orientation of the research profession is also clearly evident in the establishment of mobility as a normative part of an academic path. Obtaining a stable position is increasingly more predicated on going on a long fellowship abroad. Statistics for the Czech Republic show that women achieve lower levels of mobility than men and the difference in the degree of men's and women's mobility in the Czech Republic is one of the highest¹²³ in the EU27. These gender inequalities in the degree of mobility are related to different costs of mobility for men and women and also different conditions in their private lives.

As Marta Vohlídalová showed in her analysis, women in particular have to cope with greater changes in terms of reorganizing their private lives as a consequence of geographic mobility. Women more often than men live in dual-career partnerships and more often than men-researchers have a researcher for a partner. Owing to gender stereotypes, a woman's career in these partnerships is often attributed less importance than a man's career and at the same time the financial contribution of men for the household is usually greater than that of women due to pay discrimination. As mobile researchers, women more often than men opt for the strategy of long distance relationships (i.e., they go abroad without their partners). They generally have less emotional support during their fellowship abroad than men, and some of them stated that the fellowship abroad was one of the reasons for them breaking up with their partner. A topic that generally receives very little attention is the potential gender violence and sexual harassment that mobile women may face. Given the

123 While in the EU27 around 59 % of men and 56 % of women in higher education institutions have had an experience of mobility abroad for at least three months, in the Czech Republic this was true for around 45 % of men but only 33 % of women. In the non-university public research sector, the gender gap is even wider.

While the gap is 7 percentage points in the EU27 (68 % of men and 61 % of women), in the Czech Republic it is 17 percentage points (70 % of men and 53 % of women), one of the highest gender gaps in Europe (EC 2010).

policy support for mobility through various European mobility schemes, this is an issue that will need to be addressed, as there seems to be no corresponding general policy on how to address these specific forms of gendered violence. Furthermore, as partners of mobile researchers, women also more often go abroad as a trailing spouse, without having an adequate ensured job abroad. This significantly erodes their career prospects and reinforces the traditional organization of gender roles in these couples.

A high degree of men's geographic mobility is contingent upon their partners' willingness to adapt to the requirements of men's careers. Analogically, women researchers' lower geographic mobility is likely not to be related "only" to their potential motherhood but also to the way men's and women's work paths are balanced in these dual-career couples and what concessions men and women in partnerships expect from each other. Mobility and relatedly the unequal distribution of care work at home clearly shows the limits of the individualized liberal subject making rational choices, and underscores how partners' lives are linked, in gendered and hierarchized ways.

Family does indeed affect the academic mobility of women and men, but it has demonstrably more limiting impact on women's mobility. Therefore, if failing to go on a long-term fellowship abroad means further restrictions on career advancement in academic research, women's career prospects are bleaker compared to men's. As Ackers (2004) argues, gender inequalities in mobility are one of the reasons for women's lower representation in higher academic ranks.

His Excellency: Quality from a gender perspective

One of the more tangible shifts in contemporary Czech research is a change that is seemingly discursive only. Since the new millennium the word "outstanding" or "quality" has been replaced by the term "excellent". This change is not innocent, nor is it merely a matter of words. It is an index of a transformation of the research environment which we

capture in this book. Excellence is an expression of a metrics-based, market-oriented research governance system with its focus on applications and utility of research and the influence of stakeholders located outside science (especially the State and industry). This emphasis is also evident in the Czech research assessment system, the Methodology for Evaluating Research and Development Results. The onset of excellence and its domination over debates about research quality does not mean that the traditional ways of evaluating scientific work have disappeared. The peer review system continues to hold its position in the assessment of academic papers submitted to journals, in grant proposal assessments, or in the reviews of associate professor and full professor dossiers. However, these peer assessments are increasingly enmeshed in metrics, and thus applicants for grants from the Czech Science Foundation in every field of research, including the social sciences and humanities, must mention their H-index, which is used to assess their qualifications to implement the project. Excellence has also become part of external, managerial types of research assessment where research institutions, research teams and even individuals are assessed for the purposes of distributing funds to research and higher education institutions at the state level. In the Czech Republic this type of audit culture (Power 2003) was pushed with the 2008 Reform of Research, Development, and Innovation (Vláda České republiky 2008) even if it has never been fully implemented, and has created a hybridized, schizophrenic research milieu (Shore 2010) which places often-contradictory demands and makes contradictory claims on researchers.

The concept of excellence is not only political in its links to the neoliberal transformation of research into a quasi-market and market environment with growing stress on marketization and commodification of research results, which we have seen in the Czech Methodology for Assessing Results of Research and Development since 2004. Excellence is political also in the way it is gendered. In Chapter 5, Linková discussed the refashioned masculine orientation of research, where the traditional notion of science as a mission (one we repeatedly argue continues to hold

sway and orient Czech research) is now compounded by the demands of competition and attendant toughness (for developments in other countries see Riegraf et al., 2010). Women are perceived as unable to meet criteria of excellence because of motherhood as well as having different skill sets than men. Whereas men are seen as synthetic and having a vision and leadership skills, women are pigeonholed as analysts who can well-perform menial research tasks and who lack the toughness associated with leadership. These symbolic values get translated into institutional rules where seeming gender neutrality actually figures as a discriminatory mechanism—especially in the early career stages—with stress on uninterrupted career progress, international mobility, and a competitive CV with a track list of Impact Factor publications. In line with Tenglerová’s findings on science policy, Linková concludes by examining the ways the gendered organization of research and its values are displaced onto women who are seen as the ones responsible for changing their own situation. In this way, problems that are largely collective and social are individuated and located in affective explanations (Morley 2010: 37).

The analysis of people leaving science (in Chapter 9 by K. Cidlinská and M. Vohlídalová) shows that the current rules of research and criteria of research excellence are not problematic only for women, but also many men researchers who leave research for these reasons especially in the junior stages (cf. also Linková 2009). Most of the women and men researchers in the sample have not left because they lost their interest in research but because they were dissatisfied with the working conditions, the academic environment, and the conditions for research work. Explicitly mentioned reasons include the system for evaluating research activities which ignores many socially valuable outputs, and the resulting feelings of research work being autotelic. Men and especially women in junior positions often suffered from feelings of scientific inferiority following from the fact that they applied or had applied to themselves the same criteria of evaluation of scientific performance as those applicable to senior researchers. Together with poor inter-personal relations, improper

conduct of institutions, and highly unstable work contracts, these factors lead to a growing feeling of disgust, alienation, and burnout. Primarily, it was these feelings, and not research work as such, which propelled these people to leave academia. Many of them stated that they enjoyed research, which can also be gleaned from the fact that almost half of them are still doing research in their current position, either in the private or non-profit sector or in state administration.

Research career, motherhood, and family policy design

The issue of combining work and parenthood may indeed pose a particular challenge in research, which has negative consequences for the position of women researchers. As has been stated above, the research profession is built on masculine experience. Motherhood and active parenthood are not really expected to occur. In the Czech Republic, for example, it is uncommon for grant schemes or career rules to allow interrupting funding due to childcare. Motherhood and active parenthood are sometimes even put in opposition with the performance of an excellent scientific career. This leads to the fact that women are indirectly excluded from participating in research and development and especially from the higher echelons of research careers.

Modern welfare states have institutions which can help women at least partially balance the clash between the demands of family and private life and their (research) profession, although these policies are currently under pressure in many countries as a result of political changes. One example of such an institution is family policy, which plays an important role in the process of forming gender relations in society and has huge potential for improving the position of mothers on the labour market. Czech family policy is, however, built on a different expectation than what the research profession demands. Instead of offering the choice of a faster return to work after the birth of a child, Czech family policy stems from the norm of long-term maternal care for small infants full time for at least three years, without a real option to make use of

non-family childcare. The involvement of men in childcare is often quite limited and sharing of the caring role between partners is not widely and actively supported in state policies. The faster return back to work may be carried out only by those who have the possibility to ensure childcare, which is becoming a growing problem. What used to be totally normal for the older generation of women researchers is unavailable to many young women researchers today (i.e., quick return from parental leave back to work). Early-stage women researchers stay at home longer than they would have liked, which can have a negative impact on their further career development. Family policy that does not reflect the specific needs of professional women furthers inequalities between men and women in research rather than mitigating them.

The combination of the new conditions for the performance of the research profession and the exclusion of women and women's life biographies from so-called excellent science on the one hand, and the conditions for combining work and parenthood including gender relations between partners and family policy design on the other, have devastating impacts on women's careers in Czech research. As the longitudinal interviews with early-stage women researchers in M. Vohlídalová's Chapter 6 show, seven years after a promisingly-launched career most of the formerly highly successful women researchers who have had a child during this time found themselves in the stage of a stalled career and some of them even decided to leave academic research altogether. One of the reasons often was the incompatibility of research work and childcare in the traditional division of gender roles between partners.

The comparison of the work paths of women researchers who built their professional career before 1989 and young women researchers building their careers in the current situation shows that motherhood plays a crucial role in the work paths of young women researchers today. While the narratives about work biographies of women researchers before 1989 were primarily structured by gender non-specific factors which concerned men and women alike (e.g., historical events, allegiance

to the Communist Party), the work paths of women researchers today seem to be much more determined by motherhood.

Motherhood, which the older generation of researchers described in the interviews as a normal, manageable part of a woman's work biography, is in the interviews with the younger generation a sort of abnormality that is discounted and difficult to cope with. This can be seen on several different levels. One of them is the change in the timing of motherhood in the work path—while researchers of the older generation often started their research career at a time when they had one or more children, young researchers today are at a loss as to how to plan parenthood because no phase is regarded as suitable for the establishment of a family. Their narratives show that such an event is just not accepted to occur in the research path. In terms of the ideology and praxis of motherhood, the older generation of researchers placed emphasis on the active combination of work and parenthood whereas the younger generation demonstrates many features of intensive motherhood (Hays 1996). In place are extremely high standards of childcare which further complicate the possibility of combining work and parenthood in the contemporary system. In addition to changes in family policies, the analysis proved that the role of team leaders has shifted immensely, too. Whereas before it was possible to negotiate the conditions for combining work and parenthood in the workplace and it was largely within the power of the lab leader and heads of departments to create a family-friendly work environment, in the current system their possibilities are more limited.

Without having any desire to downplay the burden of (research) life at the time of oppression or gender inequalities and discrimination which women undoubtedly also encountered before 1989, the comparison of work paths before 1989 and today attests that with growing pressure on competitiveness, performance, international mobility, and fights for grant money, women are increasingly less able to fit their life biographies into a model that is presented to them as the only possible, proper, and at first glance gender neutral. The fact that the profile of the profession is hostile to active parenthood (even if often indirectly and “in between the lines”)

may deter gifted women from a research career only because they want to have children in their life.

Czech science policy: Closed to the (female) public

It is important to note that the transformation of Czech research is not linear, coherent, or trickle down (Linková 2014). This development is not an imposition from a place on high to which researchers are subjected as passive recipients of change. The shift has emerged in a network of politicians and policymakers, certainly, but also researchers, academics, leading representatives of the Academy of Sciences, its institutes, and public universities as well as actors from the industrial, and business enterprise sector (Linková and Stöckelová 2012). This is not a system that developed behind closed doors by cabinet officials. For many years, some of the authorities and leading representatives of the academic research sector went along willingly and contributed their share to developing national plans and strategies through membership in the Council for Research and Development, expert and advisory bodies, and the consultation process in which the Academy of Sciences and universities are included, to mention just a few.

Further and importantly, the emergence of these shifts in Czech research was not originally linked to a rise in neoliberal culture and practices of New Public Management as in some countries of the West. At the beginning of the 1990s it originated from very different sources related to the political transformation of 1989, with research assessment arising as a form of objective tools for the academic community to impose a de-politicized governmentality of professional peer accountability. It was a moral undertaking seen as putting Czech research back on track. The neoliberal shifts have occurred in different political conditions, which may be one reason why research assessment has not received as much critical attention in the country as abroad. Trickle-up processes must therefore be acknowledged as an important part of the stabilization of competitive research in the Czech Republic. After 2000, and especially

since the second half of the 2000s, policy negotiations have taken place revolving around a “commercial ethos that has enjoyed the upper hand, especially in an era of sharpening economic competition and the global diffusion of neo-liberal economic policy generally” (Vallas and Kleinman 2008: 305).

As already noted, the Czech Republic is last among 25 European countries in terms of women’s representation on boards and panels (European Commission 2013). It is safe to say then that the restructuring of Czech research charted in this book occurred with minimal participation of women in guiding these changes. Linked to this is the negligence of gender equality in research. At most, an opinion that one may encounter in the Czech Republic is that women present an untapped potential for a scientific research force or that gender diversity pays economically. Such discursive strategies come primarily from the EU; in the Czech Republic these strategies have not taken root and if something along these lines is mentioned by an important policy maker, we won’t find such statements in strategic documents.

Authors of Czech science policies persistently ignore the obligation to perform gender mainstreaming. As Hana Tenglerová shows in Chapter 4 dedicated to the gender sensitivity of research and development policies, gender equality is constituted in the discursive practices as something on the periphery or outside research. This logically displaces gender equality outside the realm of research policies. If gender equality is at all dealt with as a subject, it is reduced to the “issue of women in science”. This draws attention exclusively to women in their biological and social contexts and their inability to fit the existing rules; conversely, it takes attention away from research as a gendered and gendering institution. The gendering of research careers, precarization, mobility, and definitions of excellence are only some of the examples of how the current organization of research excludes women as well as men who refuse to submit to the normative notion of a flexible and competitive worker willing to move across the globe and be constantly available. The stress on the marketable value of research outputs and the pressure on high speed of

knowledge-making do not necessarily suit a large portion of women and men researchers (Linková 2009). Research shows that women often do not like to enter highly competitive environments and if the support for the natural and technical sciences where men predominate continues, the influence of women on knowledge-making and the definition of research and development policies may diminish further. It is legitimate to ask who is and who will be willing and able to stay in science, pursuing the goals and values outlined above? And who are the people and their value orientations that Czech research loses? What knowledge will be produced by these highly selective types of researchers? Will such knowledge be useful for all groups of society? Today, three quarters of researchers in the Czech Republic are men, and in decision-making positions they often constitute 90 %. We already lack today the perspective and knowledge stemming from the experience and needs of women.

How to promote feminist goals in this environment? Gender equality is a type of governmentality and it can be ordered in many different ways, just like the governmentality of research. In the 1970s arguments for gender equality tended to revolve around justice and representativity as women made their claims on inclusion and access. With the onset of neoliberalism in some parts of the globe and the introduction of the practices of New Public Management since the 1980s, the enactments of gender equality and feminism have changed. Fraser talks about the cunning of history in her analyses of how second-wave feminism has been domesticated by neoliberalism (Fraser 2009). Today, especially in research and innovation policies at the EU level and in many countries of Europe, we are seeing the dominance of the so-called “business case” arguments which justify gender equality not in terms of justice but in monetary terms, in terms of profit, and in terms of utility (Linková 2013). The business case revolves around arguments of making the best of human resources, waste we cannot afford, and the loss of money states

invest in educating and training women.¹²⁴ So with the shift of research governmentality, we are seeing a concomitant shift in the justificatory genres for gender equality in science at the policy level. The problem is that it is very difficult to prove the economic benefits of having more women in the scientific profession. And in any case, as Morley (2010) eloquently shows, issues of access and representation do not suffice to address intersectional gender inequality. Furthermore, much like scientists are interpolated by accountability mechanisms, gender experts are interpolated by the business case. Hoping to effect positive change by continuing to do gender research into the organization of science they also work at the policy level, often using (or having to use) these same arguments of loss, waste, and utilization.

Importantly, this book is not a call to return to the dynastic organization. We certainly do not consider the previous dynastic systems to represent some Golden Age to which we should return because things were better, there was time to do proper and deep work, and motherhood was manageable. We concur with many of the criticisms lodged against the dynastic system of organization: There were ossified research programmes and calcified structures, high levels of cronyism and gender discrimination, and it allowed slack. But then on the other hand, this organization created time, was much less competitive, and provided far more stability.

124 For example, at the Lithuanian Presidency conference on cultural and institutional change in 2013 Prof. Anne Glover, biologist and then-Chief Scientific Adviser to the President of the European Commission, recounted her experience as the Chief Scientific Adviser for Scotland where she was unable to get the ear of her minister. In the end, she told him that they should introduce quotas for female students in universities. The minister was taken aback, saying that women already constitute over 50 % of the student body. Precisely, responded Glover, and the percentage of women scientists is much lower so we're wasting huge amounts of money educating young women. This was of course said tongue in cheek, but when reflecting on this story at home we wondered whether Czech policy makers might interpret this statement literally.

Imagining the future of (Czech) research

Let us imagine a model. We could continue to increase the levels of competitive funding in relation to institutional funding, and increase the portion of institutional funding distributed on a competitive basis. This is what the Czech 2008 reform had planned, and it appears that in its quest for being the most competitive knowledge-based economy Europe will continue to push in this direction, too. We could continue to increase the percentage of people who will be forced to constantly compete for funding at every stage of the career ladder. We could continue to increase the gap between top and junior academics in terms of job security and salaries (Afonso 2013). Then we input expected behaviour changes in response to this competition and having to deliver particular types of performances that count, ensuring a stable publication track. The necessity to manage one's performance track means that knowledge-making practices continue to be subordinated to performance-making practices. Findings will be published at the moment they are publishable; projects will be granted that guarantee publishable results, which may mean reducing researchable topics and thereby attainable knowledge. Individuals will seek ways to enhance their performance, which will result in increasing "cognitive enhancement" drug use among academics and students, a process that has already begun (Vrecko 2013). At the end of the imaginary model we may be faced with a situation where at the top there will be the ones who are aligned or willing to align with the competitive organizational logic, learn to recognize publishable units, are able to protect their own time against the often invisible and necessary housekeeping work in labs and institutions (Kerr and Lorenz-Meyer 2009). We may end up with a hyper-competitive culture of extreme individualization where people on lower rungs, doctoral, and postdoctoral fellows, are inducted into a particular system, and if they do not like it, they can leave. Well, they will have to leave because the funding, the positions, and perhaps even their performance will be lacking. This is not to mention the effect that the extreme pressure on competitiveness can have on the ethics of publishing

and research (in recent years there have been cases of plagiarism and the rigging of research results by high-ranking researchers, academics and even a dean in the Czech Republic, and we can expect that the situation will get even worse as the pressure becomes greater). How long can this system sustain itself before it explodes? Our fear is that it could be self-sustaining, at least for some time. Large portions of doctoral and postdoctoral fellows fall out or opt out of the system because of the dynamic organization which constantly makes space for newcomers, and only a portion of those who are willing and able to compete at this level progress up. The big question is what sort of knowledge will be produced, and what benefits this way of organizing science will have for society?

The particular notion of research quality we profess today, excellence based on Impact Factor papers, is a version of Darwinian ‘survival of the fittest’ and its dominance will not have impact only on researchers and their careers; it will also affect how we relate to knowledge in society, what imaginaries of the role and benefits of science we develop. On 20 February 2014, leading Cambridge dons called for a new approach to research assessment as a way to combat gender discrimination, arguing that “conventional methods of achieving success in academia ... appear to benefit men more than women” (Garner 2014). They call for “care for excellence”, as Longino (2008) calls it. The current degree of competition in the system must be curbed and working conditions, especially in the early career stages, need to change if we wish to advance scientific research as a viable profession for different types of people. It is our contention that only then will the research profession be able to properly address research concerns and needs of diverse types of the population, including promoting gendered innovations through sex and gender analysis.

In the Czech Republic we often encounter the argument that statistical parity is untenable in research, especially in some domains, that parity is not necessary and that, in fact, parity in numbers does not constitute equality. This may be partially true; but then it is also not. Statistics and figures show there is evidence that women are missing when power, prestige, and influence increase (Martin 2008; Morley 2010). Physical

exclusion has some consequences for what we know, how we know, and who can know. Feminist studies of science and technology have offered important insights into the ways the symbols, institutions, and practices of science have been co-constituted by larger social and economic forces of society (Jasanoff 2004; Schiebinger 1989). By examining the shifts in the Czech Republic from a gender perspective against the backdrop of political, economic, and public policy developments, our objective in this book is not just scholarly, that is, to chart recent developments, it is also political, in the sense of wishing to argue for different imaginaries of the research profession, excellence, and researcher subjectivities.

In recent years we have seen several highly influential motions to contest the impartiality and efficiency of simple metrics-based systems. In 2012 *The San Francisco Declaration on Research Assessment* (DORA) was launched at the initiative of the American Society for Cell Biology and a group of editors and publishers of scholarly journals. Recognizing the need to improve the ways in which the outputs of scientific research are evaluated, the one general recommendation of the Declaration is: “Do not use journal-based metrics, such as Journal Impact Factors, as a surrogate measure of the quality of individual research articles, to assess an individual scientist’s contributions, or in hiring, promotion, or funding decisions.” (The San Francisco Declaration 2012) The San Francisco Declaration has to date been signed by more than 12,000 individuals and over 800 institutions, in addition to the original signatories. In Australia, controversies and protests have from the outset surrounded efforts by governments to institutionalize a metrics-based ranking system (Linková 2012). The most controversial feature of the *Excellence in Research for Australia* (ERA), the ranking of academic journals, was scrapped in response to massive criticism in 2011. In the UK, protests against the Research Assessment Exercise and its successor, the Research Excellence Framework, have come from various quarters. Most recently, an influential group of scholars published *The Leiden Manifesto* (Hicks, Wouters, Waltman, de Rijcke and Rafols 2015), which presents criticism of simple

metrics-based systems, and outlines ten principles of best practice for the application of metrics in evaluation.

The issues we address here in relation to the changed governance of research clearly affect individuals. We focus particularly on women researchers and especially on those who are now being inducted into the system in the early career stage. These issues, however, have a far-reaching impact and extend far beyond individual countries. One of the unintended consequences of using metrics for evaluation is the attempt to hunt for highly productive individuals. In the USA, the UK and Australia it had become commonplace to “poach” highly productive academics, which gives an undue advantage to richer universities that can afford to pay exorbitant salaries; in universities that already exhibit a high performance this practice is not in evidence as much (Gibney 2012; Marcus 2012).¹²⁵ The neoliberal shift in the organization of research with its stress on efficiency measured through simple publication metrics has geopolitical consequences but is equally informed by geopolitics, as is clear from where the “models” are located (Epstein, Boden, Deem, Rizvi and Wright 2007; Felt and Stöckelová 2009; Portnoi, Rust and Bagley 2010). To carry our metaphor further, how will research and innovation be organized in geopolitical terms if the processes that we outline here and which in various forms are taking place across the globe continue? What implications for social justice, including gender equality, will current developments have in geopolitical terms? How will they impact the environments they are introduced into, when little or no consideration is given to anything else but research policy? What are the ethical consequences of relying on and thereby perpetuating a geopolitical reading of research? We hope that our book at least offers some answers to these questions.

125 While clearly the quality of the research infrastructure is very important, it is the combination of budget cuts and an uncertain career outlook on the one hand and the ability to pay extremely high salaries on the other that lure researchers with a strong publication record.

Literature

- Acker, J. 1990. 'Hierarchies, jobs, bodies: A theory of gendered organizations'. *Gender & Society* 4 (2): 139–158.
- Ackers, L. 2004. 'Managing Relationships in Peripatetic Careers: Scientific Mobility in the European Union.' *Women's Studies International Forum* 27 (3): 189–201, <http://dx.doi.org/10.1016/j.wsif.2004.03.001>.
- Afonso, A. 2013. 'How Academia Resembles a Drug Gang.' (<http://alexandreafonso.wordpress.com/2013/11/21/how-academia-resembles-a-drug-gang/>).
- Berg, L. D., E. H. Huijbens and H. G. Larsen. 2016. 'Producing anxiety in the neoliberal university.' *The Canadian Geographer / Le Géographe Canadien* 60 (2): 168–180, <http://doi.org/10.1111/cag.12261>.
- Epstein, D., R. Boden, R. Deem, F. Rizvi and S. Wright. (Eds.). 2007. *Geographies of Knowledge, Geometries of Power: Framing the Future of Higher Education*. New York and London: Routledge.
- European Commission. 2013. *She Figures 2012*. Luxembourg: Publications Office of the European Union.
- European Commission. 2010. *Study on mobility Patterns and Career Paths of EU Researchers. Final Report*. Brussels: EC. (http://ec.europa.eu/euraxess/pdf/research_policies/MORE_final_report_final_version.pdf)
- Felt, U. (Ed.). 2009. *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*. Prague: Institute of Sociology of the Academy of Sciences.
- Felt, U. and T. Stöckelová. 2009. 'Modes of Ordering and Boundaries that Matter in Academic Knowledge Production.' Pp. 41–124 in *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*. Prague: Institute of Sociology of the Academy of Sciences.
- Fraser, N. 2009. 'Feminism, Capitalism and the Cunning of History.' *New Left Review* (56): 97–117.

- Garner, R. 2014. 'Leading Cambridge dons Call for a New Approach to Beat the Gender Gap in Top University Jobs.' *The Independent* (February 20, 2014). (<http://www.independent.co.uk/student/news/leading-cambridge-dons-call-for-a-new-approach-to-beat-the-gender-gap-in-top-university-jobs-9139332.html>).
- Gibney, E. 2012. 'Reach for the Stars.' *Times Higher Education* 25 (41): 37–41.
- Hays, S. 1996. *The Cultural Contradictions of Motherhood*. New Haven, CT: Yale University Press.
- Hicks, D., P. Wouters, L. Waltman, S. de Rijcke and I. Rafols. 2015. 'Bibliometrics: The Leiden Manifesto for Research Metrics.' *Nature* 520 (7548): 429–431, <http://doi.org/10.1038/520429a>.
- Jasanoff, S. 2004. *States of Knowledge. The Co-production of Science and the Social Order*. Routledge, <http://doi.org/10.4324/9780203413845>.
- Kerr, A. and D. Lorenz-Meyer. 2009. 'Working Together Apart.' Pp. 127–167 in *Knowing and Living in Academic Research. Convergence and Heterogeneity in Research Cultures in the European Context*, edited by Felt. Prague: Institute of Sociology of the Academy of Sciences.
- Linková, M. 2014. *Disciplining Science: The Impacts of Shifting Governmentality Regimes on Academic Research in the Natural Sciences in the Czech Republic*. Charles University in Prague, Faculty of Social Sciences (Dissertation Thesis).
- Linková, M. 2012. *Austrálie: od research quality framework k excellence in research for Australia. Případové studie zahraničních zkušeností s institucionálním zabezpečením hodnocení vědy* (unpublished study).
- Linková, M. 2009. 'Ne každý úspěch se počítá: excelence a genderování vědecké dráhy v přírodních vědách.' Pp. 72–99 in *Akademické poznávání, vykazování a podnikání. Etnografie měnící se české vědy*, edited by T. Stöckelová. Prague: Sociologické nakladatelství.
- Linková, M. and A. Červinková. 2013. '„Vlastní laboratoř“: akademické trajektorie a gender v současných biovědách.' *Gender, rovné příležitosti, výzkum* 14 (1): 15–26.

- Linková, M. 2013. 'V pasti dějin: křivovatky feminismu a neoliberalismu v evropské politice genderové rovnosti ve vědě.' Pp. 148–173 in *Nejisté vyhlídky: Proměny vědecké profese z genderové perspektivy*, edited by M. Linková, K. Cidlinská, H. Tenglerová, M. Vohlídalová and A. Červinková. Prague: Sociologické nakladatelství.
- Linková, M. and T. Stöckelová. 2012. 'Public Accountability and the Politicization of Science: The Peculiar Journey of Czech Research Assessment.' *Science and Public Policy* 39 (5): 618–629.
- Longino, H. 2008. *Some Concluding Observations on the KNOWING Project*. Prague.
- Marcus, J. 2012. 'Poachers' paradise.' *Times Higher Education* (August 2012). (<http://www.timeshighereducation.co.uk/420909.article>).
- Martin, J. R. 2010. 'The Missing Women in Higher Education: A Case Study of Culture Crossing.' Pp. 77–92 in *The Woman Question and Higher Education: Perspectives on Gender and Knowledge Production in America*, edited by A. M. May. Cheltenham, UK; Northampton, MA: Edward Elgar Publishing.
- Morley, L. 2010. 'Hyper-Modernisation and Archaism: Women in Higher Education Internationally.' Pp. 27–42 in *Gender Change in Academia: Re-Mapping the Fields of Work, Knowledge, and Politics from a Gender Perspective*, edited by B. Riegraf, B. Aulenbacher, E. Kirsch-Auwärter and U. Müller. Springer VS.
- Peacock, V. 2016. 'Academic Precarity as Hierarchical Dependence in the Max Planck Society.' *HAU: Journal of Ethnographic Theory* 6 (1): 95–119. (<http://www.haujournal.org/index.php/hau/article/view/645>).
- Portnoi, L. M., V. D. Rust and S. S. Bagley. 2010. *Higher Education, Policy, and the Global Competition Phenomenon*. New York: Palgrave Macmillan.
- Power, M. 2003. 'Evaluating the Audit Explosion.' *Law & Policy* 25 (3): 185–202, <http://doi.org/10.1111/j.1467-9930.2003.00147.x>.

- B. Riegraf, B. Aulenbacher, E. Kirsch-Auwärter, and U. Müller (Eds.). 2010. *Gender Change in Academia: Re-Mapping the Fields of Work, Knowledge, and Politics from a Gender Perspective*. Springer VS.
- The San Francisco Declaration. 2012. 'The San Francisco Declaration on Research Assessment.' 2 (6). (<http://am.ascb.org/dora/>).
- Schiebinger, L. 1989. *The Mind Has No Sex?: Women in the Origins of Modern Science*. Harvard University Press.
- Shore, C. 2016. 'States of Dependency or Patron-client Relations? Theorizing Precarity in Academia.' *HAU: Journal of Ethnographic Theory* 6 (1): 127–130.
- Shore, C. 2010. 'Beyond the Multiversity: Neoliberalism and the Rise of the Schizophrenic University.' *Social Anthropology* 18 (1): 15–29, <http://doi.org/10.1111/j.1469-8676.2009.00094.x>.
- Sigl, L. 2012. *Embodied Anxiety. On Experiences of Living and Coping with (Conditions of) Precarity in Research Cultures of the Academic Life Sciences*. Doctoral Thesis, Department of Science and Technology Studies, University of Vienna, Austria.
- Tenglerová, H. 2017. *Postavení žen v české vědě. Monitorovací zpráva za rok 2015*. Prague: Sociologický ústav AV ČR, v.v.i. (<http://www.genderaveda.cz/files/postaveni-zen-v-ceske-vede-2015-zlom-final-web.pdf>).
- Vallas, S. P. and D. L. Kleinman. 2008. 'Contradiction, Convergence and the Knowledge Economy: the Confluence of Academic and Commercial Biotechnology.' *Socio-Economic Review* 6 (2): 283–311, <http://doi.org/10.1093/ser/mwl035>.
- Vláda České republiky. 2008. *Reforma systému výzkumu, vývoje a inovací v ČR. Česká republika*. (<http://www.vyzkum.cz/FrontClanek.aspx?idsekce=495405>).
- Vrecko, S. 2013. 'Just How Cognitive Is "Cognitive Enhancement"? On the Significance of Emotions in University Students' Experiences with Study Drugs.' *AJOB Neuroscience* 4 (1): 4–12, <http://doi.org/10.1080/21507740.2012.740141>.

