

Matthies, Hildegard; Torka, Marc

Article — Accepted Manuscript (Postprint)

Academic Habitus and Institutional Change: Comparing Two Generations of German Scholars

Minerva

Provided in Cooperation with:
WZB Berlin Social Science Center

Suggested Citation: Matthies, Hildegard; Torka, Marc (2019) : Academic Habitus and Institutional Change: Comparing Two Generations of German Scholars, Minerva, ISSN 1573-1871, Springer, Berlin, Vol. 57, Iss. 3, pp. 345-371, <https://doi.org/10.1007/s11024-019-09370-9>

This Version is available at:
<http://hdl.handle.net/10419/227568>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Academic Habitus and Institutional Change: Comparing Two Generations of German Scholars

Hildegard Matthies¹ · Marc Torka^{1,2}

Abstract Since the 1980s scholars have been increasingly confronted with expectations to orient themselves toward societal and economic priorities. This normative demand for societal responsiveness is inscribed in discourses aimed at increasing the usefulness, competitiveness, and control of academia. New performance criteria, funding conditions, and organizational forms are central drivers of this debate – thereby, they change the conditions in which scholars conduct research and advance their careers. However, little is known so far about the impact these institutional changes have on the habitus of academics. This article analyzes how stable and consistent habitus formations among academics turn out to be in the course of institutional changes. We compare the habitus formations of two generations of German scholars before and after institutional changes gained pace in Germany. Three distinct habitus formations can be identified, which we refer to as “self-fulfilling,” “self-surpassing,” and “self-asserting.” These habitus formations hold across the two generations, but the lines between them become blurry in the new generation.

Keywords Academic habitus · Habitus transformation · Academic careers · Institutional change

Hildegard Matthies

✉ hilde.matthies@wzb.eu

¹ Research Group Science Policy Studies, WZB Berlin Social Science Center, Reichpietschufer 50, 10785 Berlin, Germany

² Department of Sociology and Social Policy, The University of Sydney, A02 Social Sciences Building, Sydney, NSW 2006, Australia

Introduction

In many countries around the world the past decades have witnessed the emergence of new science policies and organizational frameworks whose intention is to orient academics toward addressing societal and economic needs. This demand for more responsiveness is inscribed in discourses regarding the usefulness, competitiveness, and control of academic careers, work and performance (Torka 2015). It has led to changes in policy narratives (Kaldewey 2017), funding regimes (Whitley et al. 2018), academic organizations (Clark 1998; Krücken et al. 2013), labor markets (Musselin 2005) and career patterns (Enders and de Weert 2009). While most scholars agree that institutional changes have occurred worldwide, their consequences on the micro-level of scientific contents (Gläser and Laudel 2016), socialization processes (Torka 2018), academic identities (Henkel 2005) and habitus formations are still contested.

The objective of this paper is to examine whether the demands for more responsiveness alter academic habitus formations. Investigating habitus formations is important to trace change in academic institutions as they tend to be inertial and regulate normative as well as cognitive expectations beyond formal regulations. For this reason, institutional theory suggests that any substantial claim about institutional change must address the regulatory, normative and cognitive level of social institutions (Scott 2001). Most commonly, habitus is understood as “a set of acquired patterns of meaning, beliefs, behaviors and tastes” (Decoteau 2016: 305) that guides activities. Social origins and specific field logics form the habitus through primary and secondary socialization. In the field of academia with its high level of autonomy, the habitus functions as a guarantee that scholars follow the rules of the academic game (Bourdieu 1988). These rules comprise explicit and implicit epistemic, communicative and social values involved in the collective creation and scrutiny of scientific knowledge (Merton 1973). In the course of long professional socialization processes, academics are considered to internalize and reproduce these values in everyday academic practices. But this “monomaniacal fixation” (Schimank 2011) on the reproduction of academic values may clash with the increasing demand for more social responsiveness. The antagonism between a scholar’s own “inward calling” and “external conditions of the academic man’s vocation” (Weber 1946: 134) may not only become an integral part of every academic’s career (Hackett 1990), but may also undermine existing and create new academic habitus formations.

In order to investigate whether institutional changes transform habitus formations of academics, we translate the normative term of responsiveness into an analytical category (Torka 2015) and compare two generations of German academics. Thereby, we understand responsiveness as the factual way scholars respond to institutional changes rather than in terms of gradual compliance with external normative expectations. We suggest that inter- and cross-generational comparisons of responses to change indicate whether academic habitus formations tend to persist or transform in the course of institutional renewal. The first generation of our study pursued their academic careers before institutional change took hold

in German academia. The second generation is composed of scholars who started their career after institutional change had begun to transform the German academic system since the 1990s. As institutional changes and academic habitus formations may vary across academic subfields (Gläser and Serrano Velarde 2018) and gender (Barry et al. 2014), the study covers male and female academics from science, technology and the humanities.

Our approach draws on studies that regard scholars as “active participants” (Thomas and Davies 2002: 376), rather than viewing them as reactive “cultural dopes” (Garfinkel 1967) and analyzes institutional change from a “micro-level perspective.” These studies provide comprehensive insight into how scholars actually deal with the new demands and show a broad spectrum of responses ranging from adaptation to refusal, resistance or even ignorance (e.g., Knights and Clarke 2014; Lam 2010; Thomas and Davies 2002; Trowler 1998; Ylijoki 2014). In our paper we will go beyond these findings by examining whether the different responses relate to distinct habitus types and are linked to the social origins of habitus that produce and refine the ways scholars perceive themselves and the world around them.

We develop our analysis in five steps. First, we outline the relationship between institutional changes that aim to increase responsiveness, academic habitus formations and careers. Second, we identify characteristics and changes of career conditions in the German academic system and summarize hypotheses regarding the transformation of academic habitus. Third, we present the methodological design for our data collection and analysis. Fourth, we present the findings of three cross-generational habitus formations (“self-expressing,” “self-surpassing,” and “self-asserting”) and discuss them in terms of consistency, stability, and tendency to change. Fifth, we reflect on our empirical findings to address the question of whether new types of academic habitus emerge over time.

Responsiveness, Habitus, and Career

The starting point for our analysis is the assumption that, although the normative demand for more responsiveness affects academics’ work and career conditions, it does not determine how they deal with the new situation. We understand the relationship of academics vis-à-vis their environment to be a constitutively open and undefined one, which *prima facie* is neither strictly determined by science policy demands, organizational structures, and values of the academic profession, nor by subjective desires of academics themselves (Torka 2015). Scientists might ignore, adapt to, or re-interpret new expectations of their environment, but thereby they are continually creating new compromises between their own and external objectives so that any impact of external governance structures “is mediated by actions of individual academics” (Gläser et al. 2010). However, in the ways they deal with new demands and conditions academics always express their fundamental disposition toward their profession. This disposition is a crucial part of habitus formation and is tightly linked with each academic’s entire biography.

To be able to capture how scientists respond to new working and career conditions in academia, we utilize Bernhard Waldenfels’ phenomenological conception

of responsiveness (Waldenfels 1996, 2003, 2004). In contrast to the normative use of responsiveness as a qualitative measure for assessing proper alignment with societal needs (Pennock 1952; Pitkin 1967; Etzioni 1996), Waldenfels' responsiveness is an analytical category. He claims that any action can be analyzed as a response to explicit, implicit or even just imagined demands, requests, or requirements of others. This understanding of responsiveness has several advantages. First, it requires no normative or theoretical assumptions regarding how academics align their actions when they are faced with new requirements; rather, this itself is the subject of the analysis. Second, it foregrounds the response to demands that academics are exposed to, either objectively or subjectively. Thus it revolves around the interaction between one's own and the other's demands, that is, the subjective as well as the objective world of the actors. This open approach allows us to empirically access the basal disposition and schemes that academics use in practice and which add up to their respective habitus.

The question whether habitus formations may alter in the context of institutional change processes is highly controversial in social theory. In Bourdieu's approach, the habitus is "a system of durable, *transposable* dispositions" (Bourdieu 1977, original emphasis) that mediates between the subjective and objective world. It embodies the social memory of society or a societal field, on the one hand, and an individual's perception, thinking, and acting, on the other (El-Mafaalani 2012: 76–77). In this sense, "the habitus is not only a structuring structure, which organizes practices and the perception of practices, but also a structured structure" (Bourdieu 1984: 170). Habitus formations are passed on through generations, incorporated in early childhood and refined in later professional socialization processes to act according to the principles of a field. As they are embodied in practices, they are also visible to others and function as an informal selection criteria because "those who know the habitus of a person, can sense or know intuitively which kind of behavior can be excluded for this person" (Bourdieu 1992: 33, translated by the authors).

Bourdieu considers a change of habitus as response to a "gap ... between expectations and experience" (Bourdieu 2000: 149), but insists that the direction of change is primarily determined by the very same habitus. For Bourdieu, habitus modifications are more likely; habitus transformations only occur in specific situations such as major shifts in social structure and social mobility or in case of a radical break with the social origins (Bourdieu 2000: 159–163).¹ Consequently, habitus formations tend to resist incremental institutional changes according to Bourdieu (Bourdieu 2000). Other authors question this habitual determinism and posit the emergence of an "inherently reflexive habitus" (Sweetman 2003) in the course of societal modernization that constantly aligns self-concepts to changing external conditions (Archer 2007, 2012).

Our study turns the theoretical question of habitus transformation into a micro analytical approach by expanding Bourdieu's concept in three ways. First, in addition

¹ This view is similar to Norbert Elias' concept of the process of civilization as a constant alignment between the two distinct but interrelated processes of habitus formation and social structural transformations (Paulle et al. 2012: 79–80).

to the collective principles of a field-specific habitus, we consider the individual-biographical situation of a habitus formation which enables (or disables) individuals to fit into a particular societal field (Rademacher and Wernet 2014; Kramer et al. 2013). Life history interviews span across different phases in which the habitus was formed and may be transformed, including the primary socialization in families, the secondary socialization in schools and universities as well as current experiences as active academics. Second, we assume that habitus transformation may occur beyond structural shifts and major status passages if individual dispositions fail to cope with new conditions. In this situation “the cosmos of possible options for action” (Rademacher and Wernet 2014: 166) opens up and calls for decisions that might transcend the limits of the habitus and lead to one that fits better with the new principles of the social field (Bottero 2010; Elder-Vass 2007; Decoteau 2016). Third, and finally, we scrutinize the assumption of a shared academic habitus, since “there is often an opportunity to ‘play the game’ in more than one way” (Adams 2006: 515). For this reason, we take different habitus formations within the academic field into account.

Empirically, we ground our analysis on self-reflections of academics on their careers. The career dimension comprises objective conditions of the academic field, requirements of organizations to obtain academic posts, individual biographies as well as habitual dispositions and is thus very instructive for our investigation. In order to gain insights into the components of the academic habitus, we analyze how academics act in their careers, how they approach, explain and relate their careers to their social origin, professional field, institutional requirements and personal aims.

Academic Careers and Institutional Change in Germany

The German academic system is an insightful context for the study of academic habitus (re-)production and transformation. The German chair system has been described as a “latecomer” (Schimank and Lange 2009: 394) regarding the relatively late arrival as well as limited impact of institutional change and this may support the reproduction of traditional academic habitus formations. On the contrary, Germany can be considered as a “forerunner” because pursuing an academic career is increasingly risky in this system and this may trigger the habitualization of new institutional imperatives.

The German academic career path is traditionally characterized by a great deal of selectivity (Janson et al. 2007; Kahlert 2013b; Kreckel and Zimmermann 2014). While other national academic labor markets provide various tenured positions for early career academics, Germany restricts permanent contracts to late career stages and primarily to a relatively limited number of professorships (Musselin 2005, 2010). For example, in 2014, 77% of the academic staff at universities and 93% of early career researchers were on fixed-term contracts (BUWIN 2017). Furthermore, becoming a university professor in Germany requires a long postdoctoral qualification period for the preparation of a “second book” or series of related articles. This *Habilitation* model, as it is known, was considered to be replaced by the introduction

of an assistant professorship, meant as a period of probation (*Juniorprofessor*); but these posts are limited to six years and rarely come with a tenure option so far.² Yet another feature of the German university system is the ban on internal appointment of professors (*Hausberufungsverbot*), which means that scholars must move to different institutions in order to progress in the hierarchy. As a result, an international comparison of biographies, careers and employment situations of academics concludes that “German higher education seems to be the or close to the extreme end of selectivity and job uncertainty” (Höhle and Teichler 2016).

The core problem of the German academic career system is its “up-or-out logic” (Janson et al. 2007) and resulting “all or nothing” career situation of academics (Enders 2001: 12). Academics must strive toward a professorship because of a lack of alternative tenured posts at other levels in German academia. In this respect, the term “career path” is actually misleading, because there is no such pathway in the German academic system; rather, it takes the form of an unpredictable passage from one status to another (Schmeiser 1994).³ Therefore, academic career success and failure have always been very closely bound together in Germany. How this balancing act plays out biographically only becomes evident at a relatively late stage (Kahlert 2013b).⁴

However, opportunity structures for successful academic careers vary between cohorts. This is due to retirement waves of tenured professors, the extraordinary expansion of higher education in the late 1960s and 1970s and the German reunification in the 90s (see Fig. 1).^{5,6} The expansion led not only to better career opportunities for already qualified academics in waiting positions, but also to a considerable change of the social composition of the German academic profession. The influence of social origin, usually measured by the occupations of parents, has declined over time (Mayer 2002, 2016) but is still important in particular disciplines such as the classical professions of law and medicine or the staffing of academic elite positions (Möller 2013; Graf 2015). Furthermore, the gender composition of the academic workforce has changed. The share of female professors increased from 5% in 1980 to 9% in 1997 and again to 23% in 2016 (Jungbauer-Gans and Gross 2013; Lutter and Schröder 2016).

In the course of institutional change, which dates back to about the mid-1990s in Germany (Jansen 2007), career opportunities for academics have narrowed again.

² In 2017 only 14% of 1,606 junior professors come with a contract with tenure track option. The share of junior professors among all 24,520 university professors is 6.5% (Federal Statistical Office 2018).

³ These career conditions also have an impact on the gender balance of the German academic system (Kahlert 2013a; Matthies and Zimmermann 2010).

⁴ In 2014, the average age of newly appointed tenured associate and full university professors was 41.1 and 42.4 years (BUWIN 2017: 117).

⁵ For example, the share of professors among the academic workforce increased from 16.7% in 1966 to 27.6% in 1980. In the course of the German reunification process, the absolute number of professors increased by about 2,500 between 1991 and 1992 but the share decreased continuously due to skyrocketing increases of non-professorial academic staff to fill the gap and dropped to 13.4 % in 2017 (see Fig. 1).

⁶ The data comprises professors and academic staff at German universities (FTE). We excluded teaching- only roles as well as professors and academic staff at specialized higher education institutions known as Universities of Applied Sciences (Fachhochschulen) to allow for long-term comparisons of academic career opportunities. These institutions differ from traditional universities in terms of admission criteria, non-university career trajectories, practical objectives and limited rights to award doctoral degrees.

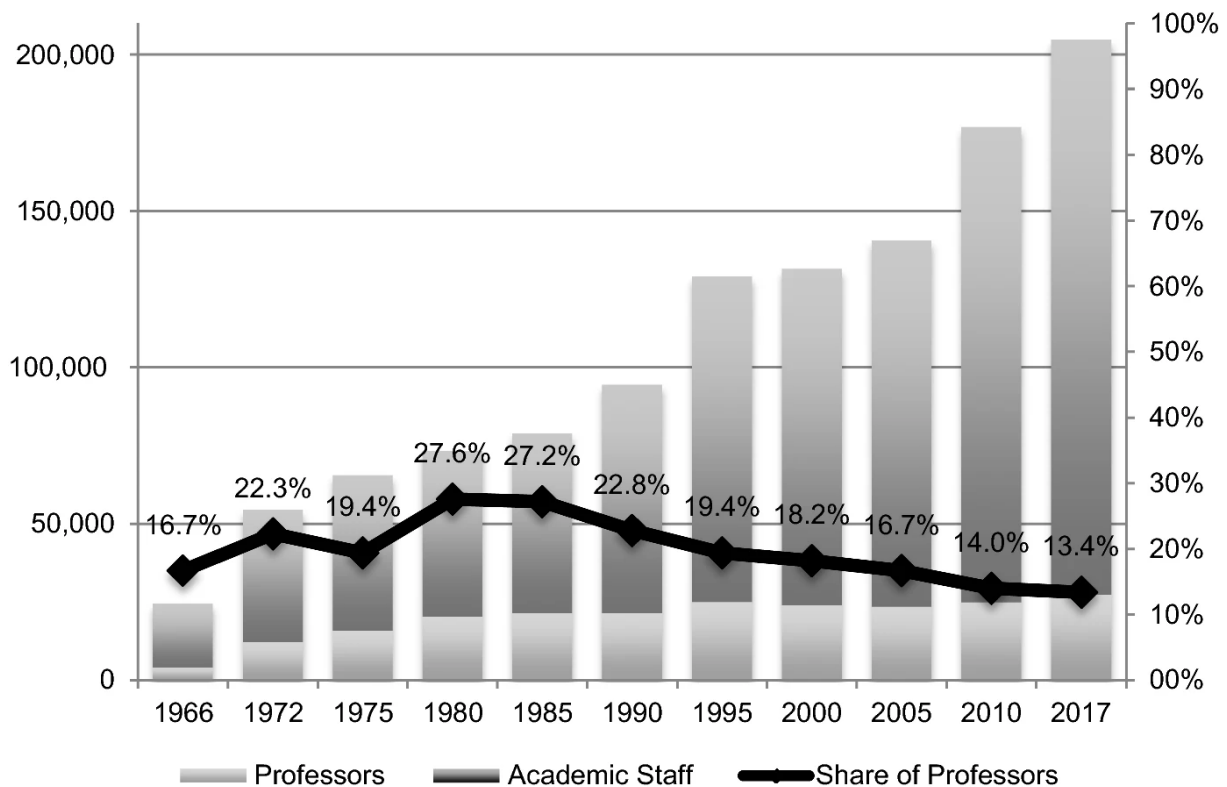


Fig. 1 Academic staff and professors in Germany 1966–2017. Sources: Rahlf (2016), Federal Statistical Office (2011, 2018); own calculations and graph

This is first of all due to the fact that – as in other countries – the number of professorial positions or comparable permanent posts is not growing at the same rate as the expansion of the academic staff in temporary posts. In addition, permanent posts at the mid-level are being massively downsized. The proportion of permanent mid-level academic employees at German universities dropped from 48% in 1980 to 25% in 2004 to 16% in 2014 (Rogge 2017: 114). Furthermore, the Act on Fixed-Term Contracts (*Wissenschaftszeitvertragsgesetz*) limits the maximum fixed-term contract period for non-professorial academics at universities to 12 years. After this period, universities can only appoint non-professorial academics to posts that are externally funded. The “mono-directionality” (Rogge 2017: 210) and “projectification” (Torka 2009) of the academic career path in Germany were intensified with this Act, so that only a tenured professorship guarantees a long-term academic career.

These institutional reforms also erode the privileges of German professorships, such as high salaries and life-long civil service-like status.⁷ At the same time, the competition to “prevail” (Bourdieu 1975) in the academic arena has intensified. Professional success increasingly depends on quantitative measures, such as the number of publications in peer-reviewed journals, citation frequencies, or journal impact factors (Jungbauer-Gans and Gross 2013; Lutter and Schröder 2016). The ability to attract funding as well as evidence of public recognition and societal impact are further measures of performance that are increasingly taken into account. Although

⁷ There is also an increasing trend toward fixed-term professorial posts with a multi-year probation period before tenure, particularly in case of first-time as well as appointments of women (GWK 2013).

“governance by numbers” (Heintz 2008) is an overarching trend in the German academic system, extent, relevance and forms of performance measures vary across scientific subfields.

As a consequence of limited career opportunities and new performance demands, some scholars fear that the academic profession is being diluted into just another “job for careerists” (Funken and Rogge 2014, translated by the authors), in which individual success is the only thing that counts. In a study of 20 academics’ career paths and strategies, Funken et al. (2015) conclude that, despite divergent ways of dealing with the career conditions, strategic considerations are dominant across cases. Only one career type, which the authors characterized as the “refuseniks,” resisted the rules of the competitive game of the field; but they considered the option of leaving academia altogether. Another study (Fochler 2016) came to a similar conclusion: it found that upcoming academics in the life sciences of the analogous Austrian academic system plan their careers according to competitive criteria. Striving for one of the few permanent posts, academics tend to pursue a strategy of “anticipatory acceleration” (Müller 2014) by trying to outdo each other in both tempo and quantity. But do all academics really respond to institutional changes in the same way? And do they resemble one another in terms of habitus? We explore these questions in a comparative analysis of habitus formation for two academic generations.

Methods and Data

The study draws on 32 life history interviews (Atkinson 2002; Flick 2014) with two distinct generations of successful German academics who pursued their academic careers and occupied highly sought after positions in German academia at the time of the interviews (see Table 1).⁸ In the spirit of Mannheim (Mannheim 1952), we understand a generation to be a group of individuals who share a specific historical situation that both offers certain opportunities and imposes restrictions. One of the two generations that we studied received their doctorate between 1971 and 1984, thus before the institutional changes took hold in Germany. They are referred to as the “first generation.” The “second generation” comprises academics who earned their doctorates between 1990 and 2006 and have pursued their academic careers under the conditions of the institutional change. The last section has shown that the forming experience of both generations differ considerably. While for the first generation the ongoing expansion of the higher education system was accompanied by an expansion of professorships, career opportunities for the second generation stagnated and narrowed.

The interviews were conducted from 2008 to 2011. The selection of interviewees followed the principle of theoretical sampling (Glaser and Strauss 1967) of most contrasting cases on the basis of publicly available résumés from websites. The cases differ in terms of age, gender, achieved positions, and disciplinary composition

⁸ The interviews were conducted in the project “Excellence and Gender in Leading Positions of Academia and Economy” (Hänzi and Matthies 2014), funded by the Federal Ministry of Education and Research and the European Social Fund of the European Union.

Table 1 Sample

		First generation	Second generation
Year of birth		1943–1960	1960–1979
Year of doctorate		1971–1984	1991–2006
Number of cases		15 (7 female, 8 male)	17 (11 female, 6 male)
Disciplines	women	Physics, Chemistry, Biology, History, Social science, Business administration and Law	Physics, Mathematics, Engineering, Anthropology, Ethnology, Sinology and Japanese studies, Political science, Philology, Archeology, History, Linguistics
	men	Physics, Science of Forestry and Soil, Metallurgy, Economics, History, Sociology, Philology, Political science and Philosophy	Physics, Chemistry, Geology, Philosophy, Sociology, History, Psychology
Position (at the time of interview)		<ul style="list-style-type: none"> • Chairs (4) • University Presidents (2) • Research Institute Directors (9) 	<ul style="list-style-type: none"> • Chairs (4) • Assistant Professors (1) • Research Institute Directors (1) • Junior Research Group Leaders (11)

to allow for different habitus formations. The second generation is a more open category in terms of career success. It includes highly sought after temporary positions that can be considered as stepping stones on the way to tenure. Most of them achieved a chair one or two years after the interview took place. The overrepresentation of women in the second generation results from the funding context, a particular science policy program to promote women in science.

In keeping with our life history approach, the initial question of the interviews was designed to evoke detailed narratives of the persons' biography and career decisions. All interviewees were asked: "How did you manage to get your current career position? How did you 'make it' here?" This question deliberately frames their career as exceptional to provoke detailed explanations. In most cases this focus triggered a long autobiographical narration, including statements about the interviewee's social origin. Later in the interview process, we encouraged interviewees to clarify particularly important biographical situations during childhood, school, university and other turning points also to control for strategic answers. After finishing the narrative, we contextualized it by collecting biographical data with a standardized questionnaire. Items included parents' and grandparents' occupation and qualification as well as dates and contexts of the interviewees' main career steps.

Most of the interviews took place in the interviewee's office and lasted between 90 and 120 minutes. They were recorded digitally and anonymized in the process of transcription. The written interview protocols were analyzed on a case-by-case basis according to the method of structural hermeneutics (Maiwald 2005; Wernet 2014). The method is similar to Conversation Analysis (e.g., Schegloff 2007) and considers the interview as an evolving interaction between interviewer and interviewee. Interactions are unpredictable and evoke spontaneous reactions beyond an intended presentation of the "best self" (Goffman 1990). Thus, the interview unfolds as a constant

series of choices that interviewees make between potential answers, whereby latent background assumptions and dispositions of the habitus guide this choice. In order to reconstruct these assumptions and habitus formations, the statements documented in the interview protocol are examined, above all, for their sequential character: they are viewed as statements that follow from one another, whereby information that is withheld and omitted is also taken into account. At every sequential step the same analytical questions apply (cf. Fischer 2015): What action is opted for in this case out of other potential options? How does the case justify their decision and relates this choice to other decisions? Step by step, the underlying regularity of choices is thus reconstructed. Gradually, the selective character of biographical self-descriptions emerges and reveals the structural components of the underlying habitus formation and how this habitus guides the interviewee's career decisions in a given institutional context.

After completing this case-by-case analysis, we compared the results of individual cases within and across generations to identify distinct types of habitus formations and to examine how these types respond to institutional change. The aim of the comparison was to identify the main biographical driving forces of academic careers that regulate how academics deal with and relate to institutional changes in the contemporary academic landscape. This focus enabled us to construct three ideal types (Weber 1904/1949; Kelle and Kluge 2010) of academics' habitus that spanned the two generations, gender and disciplines. These habitus formations can be described as a general drive to fulfill, surpass or assert themselves in the academic realm (Hänzi and Matthies 2014).⁹ In the following section, we briefly outline main features of the typology and the distribution of cases across types and generations. Thereafter, we present each type in detail and compare differences between the first and second generation.

Findings: How Three Cross-Generational Types of Academic Habitus Respond to Institutional Change

Although the sample composition and the opening question of the interviews allowed for a great deal of different answers, the analysis of the narratives revealed three main drivers of professional careers, identities and activities: the drive to fulfill, surpass or assert oneself in the academic realm. These driving forces link different layers of the academic life and constitute distinct habitus formations. Each of them is closely aligned with basic orientations and specific biographical constellation and they regulate how academics deal with institutional changes. The self-fulfilling type is driven by a passion for specific subject matters and strives for realizing their ideas irrespective of institutional changes. In contrast, the self-surpassing type strives for a successful career and adapts to changing career conditions. Finally, the self-asserting type seeks to escape their social background, strives for recognition in the academic world and uses recently established success measurements to assure their presumed genius. In contrast to typologies that separate "inner-" and

⁹ Interestingly, fundamental characteristics of these driving forces were also found among interviewees within the economic field (see Hänzi and Matthies 2014).

“other-directedness” (Riesman 1950), each of these habitus formations relate individual aims and institutional demands specifically. If academics separate, merge or construct conflicts between both levels, their respective habitus is already at work. We examine how academics relate themselves to institutional conditions rather than predefining this relationship theoretically.

Ideal types are particularly useful to classify and analyze ambiguous cases in-depth and determine which component of the habitus dominates in practice. Some cases portray, for example, their passion for a subject matter as an end in itself, while others present it as a means to obtain recognition or to promote their careers. However, our typology is principally open to other ideal types or more fine-grained variants, i.e., with regard to gender or research-field differences. For our argument, it is more crucial that all cases fit into these three ideal-typical habitus formations across gender, disciplines and, above all, both generations. This may indicate the relative stability of these habitus formations over time. The self-surpassing type appeared most frequently with nine cases in each generation. Five cases per generation show dominant characteristics of the self-fulfilling type. One case in the first and three in the second generation represent the self-asserting type. As the small sample size is not suitable to trace changes in the distribution of types over time, we examine on the micro-level whether the habitus formations adjust to new institutional conditions. We develop our analysis in three steps. First, we describe the type’s basic traits and we indicate the variations that are observable in the comparison across generations. Second, we show how the habitus formation emerges biographically. Third, we highlight specific features that are typical of each generation in dealing with institutional change.

Type 1: Self-Fulfilling

In both generations, academics of the “self-fulfilling” type show a strong orientation toward an “I” in terms of an “implicit self” (Hahn 1988). This attitude “is not actually self-reflexive in the proper sense” but rather “reveals, consolidates and realizes itself through action” (Hahn 1988: 92). The professional decisions of this type are portrayed as greatly influenced by the idea of bringing something to fruition, the seeds of which they see already planted within their personality. Person and content of the subject matter appear to form an inseparable unit. The habitus of these academics is characterized by strong curiosity and a thirst for knowledge but also by an almost childlike enthusiasm and carefree attitude toward their academic career. These academics describe their way into academia in terms of a natural path on which they follow early ideas, interests and experiences. Accounts of their childhood, school and university experiences are positive and left no doubt that they have always been at the right place. Something rather “grabbed”¹⁰ them there and

¹⁰ Unless otherwise noted, italicized text passages represent comments from interviewed academics. For the purpose of legibility, the quotations have been linguistically simplified, and the pauses and breaks while the speaker searches for words as well as emphasis of confirmation have also been revised. A native speaker translated the passages from the original German. The names of the interviewees were changed to ensure anonymity.

enhanced an inner-drive they have been feeling since childhood. One could say that this type's disposition toward academia already influenced their life histories in early educational processes (Franzmann 2012: 259ff.). Hanna, a successful professor of the first generation, who achieved tenure long before institutional changes appeared, explains her career this way:

It's not really an occupation, it is, I always say, I've never worked for my money, right?
... No, because it's a passion ... Since my early childhood I've been excited about physics. So, that was, that is since I've been able to think. I was really excited to go to school and I was eager for the physics lessons and was always also the best in the class.

Obviously, the academics of this type want to create something that they feel is their own. In their self-representations, they refer to "*my research*," "*my projects*," or "*my books*" and state that they are only carrying out what already exists within them and wants to be fulfilled. They present themselves as pleased by recognition, but honor and prestige are flagged as not the primary targets of their actions. Instead, self-fulfillers interpret their actions solely as results of their own inclinations and needs, and describe their career paths as the necessary consequence of a quasi-natural logic, the success of which is a nice, self-fulfilling accessory. Maren, a recently tenured professor, who belongs to the second generation, expressed this feeling:

What really was, and is – I believe – the primary drive is that developing something that brings about new knowledge is a great pleasure, ... the recognition afterwards and the career, the success, the social success so to say, all that thymetic¹¹ aspects comes along with it. And that's not actually what keeps one excited for long.

This quotation also shows that the self-fulfilling type is in no way a relic from an academic generation that was comparatively privileged with favorable career conditions. The confrontation of early interests and basic beliefs with extracts of the experiential world (Oevermann 2005: 34) is constitutive of self-fulfillers from both generations. They practically represent the ideal type of academics driven by inner passion, as proposed by Max Weber (1946). They also exhibit high certainty that they are doing the right thing professionally. This certainty is, firstly, grounded in early biographical experiences of self-efficacy (Rosa 2012), for instance, in repeated confirmation and recognition of their actions. In many cases the self-fulfillers grew up in a family in which education and culture have a central value. Typically, at least the father and often even the grandfather occupied a professionally outstanding position, usually in academia, too. In the interviews, the parental home often is described as a place of loving care and support, where there were virtually no limits to the development of the personality and where they received a rich and extensive

¹¹ This term stems from Plato's philosophical concept of *thymos* and describes the human desire for things that are considered to be good.

education as a matter of course. Most representatives of this type reported that they received recognition in school for their excellent performance as Maren explains:

My family, especially my mother, has always been very supportive. I had music lessons, played music, went to ballet and sports and all that stuff. So I was really fully equipped with all the opportunities and interests that I had and of course I was supported at school. Well, my brother and I, we both were always very good at school, we never had any problems, except that we were very bored. (Maren, second generation)

Equipped with this cultural capital, academics of the self-fulfiller type set sail on their career journeys in the same waters, so to speak, as their ancestors, without being greatly taken off course by any outside influences. At the university they were praised for their “taste for science” (Roach and Sauermann 2010) and typically found “*inspiring*” mentors who encouraged them in their professional interests.

This clearly touches upon the protean career type identified in career theory, namely, individuals who put self-fulfillment above concerns and norms of the outside world (Hall 1976; Volmer and Spurk 2011). The habitus formation overlaps with that of the “existentialists” in the study by Knights and Clarke, academics who describe their work more as “a vocation than a job” (Knights and Clarke 2014: 345). Inasmuch as self-fulfillers show any strategic orientation, it is that they wish to make a contribution to “*knowledge*” and in this way do something for society. In so doing, they primarily follow their inner voice or drive rather than career incentives. This is illustrated by the following passage in which Leonard, another academic from the second generation, responds to the question of whether his non-mainstream research might push him to the sidelines:

Well, if one has gone about anxiously planning his career, then he wouldn't have become an academic in the first place ... So, for me, it always proved to be best that – I don't have any alternative paths for myself, that's why I don't know –, but to always follow what one wanted to do.

However, the changes in science policy have definitely generated tensions for academics of this type, particularly between their need for autonomy and substantial scientific activity and the optimization and quantification logic imposed by academic organizations. Although this problem occurs cross-generationally, it affects younger academics more substantially than those from the first generation. The second generation exhibits greater uncertainty as to whether their academic activities will ever lead to long-term employment. Their biographical self-descriptions show significant signs that they are influenced by what Ruth Müller (2014) calls “anticipatory acceleration.” The way they present their professional career often echoes a race against time. They are concerned that they must always be a little ahead because the next grant application they count upon for subsequent employment might have to be written before their current research is even finished. The use of metaphors from competitive sports, such as “[*one has to*] *always stay on the ball,*” to defend one's own position in the field and not gamble away possible appointments illustrate this situation. Even the above quoted Maren, who has virtually had a textbook career and got tenure comparatively early, seems to be unable to extricate herself from the discourse about

the need for strategic career planning. She wonders in retrospect if it was not too reckless to have neglected certain strategic career considerations in her professional development and recommends her students not to lose sight of the social and political dimension of the academic field in their sheer enthusiasm for the content:

So, I was very reluctant to deal with these issues, because I thought, oh, I'm busy doing my own stuff right now, for now I have to learn. I might have perhaps, if I were to do it again, I would maybe have combined it more. Well, I would have pushed myself to do it, to change myself. That's what I tell my students today. I tell them, I think it's wonderful when you get so involved in your topic and want to learn, but also make sure that you show what you are capable of and that you talk to the people that are important for you. (Maren, second generation)

Academics from the second generation of self-fulfillers also express fears that their academic productivity might suffer from the new demands of career success, especially since these conditions extend to the problems of coordinating academic and non-academic life. They describe the "requirement" to win third-party funding, criteria of the "evaluation industry" or the general expectation to be "internationally mobile" as technocratic impositions that are detached from any substantial discussion about advancing knowledge. Against the background of new career conditions, some of these academics are even questioning whether they should continue their academic career. Instead of complying with the new rules of the game, they tend to become "refuseniks" (Funken et al. 2015). Leonard, for example, sees the requirements for a professorship "completely contrary to the ethos of the researcher" and prefers a lower status position under these circumstances because "universities are eager to burn out professors in grant applications and as a research associate you do not have a bad life either." Likewise, Ellen, another second generation academic, realizes that the opportunity to pursue her research interests is actually more important to her than taking the next step toward a professorship: "To be honest, I have little desire for a professorship ... then you have no time for your own research at all. But what are the alternatives?"

In summary, second generation self-fulfillers do give in partially to the new institutional expectations, but for pragmatic reasons. They consider compliance with new performance criteria as an inevitable precondition for continuing their scholarship, but they have not (yet) come to terms with the logic of these expectations. This also means that there is no evidence for a habitus transformation. Like the first generation self-fulfillers, their actions are determined by the traits of habitus that brought them to science in the first place, namely, the need to satisfy their genuine curiosity and thirst for knowledge.

Type 2: Self-Surpassing

Ideal-typically, the careers of the "self-surpassing" type are marked by boundary-crossing in every step of the way. In contrast to self-fulfillers, the narratives of these academics are driven by a strong wish to go beyond what they are and their

professional activities reflect an orientation toward a “boundaryless career” (Volmer and Spurk 2011; Sullivan and Arthur 2006). Similar to the “aspirants” in Knights and Clarke’s study (2014), they may entail seeking a status career or wishing to develop into an exceptional scholar by successfully tackling a major challenge in their field.

The urge to surpass their limits is typically rooted in a socialization process characterized by strong utilitarian and goal-oriented thinking. The parents of these academics already overcame such limitation and established themselves at a higher level in society thanks to a strong sense of duty, hard work, and commitment to education. Usually the familial upward mobility continues when a role model outside the family enters the scene and ignites the will to break out of the pre-formed career possibilities inherited from the parents. One such self-surpasser, who is currently a university president, provides an example:

For me, my ideal profession early on was: I wanted to be a professor ... I still have a very clear memory of how I perceived professors at the beginning of my studies. And there were a few, whom I found very intriguing ... And then I took a look for myself when I was in the second semester of my studies, how does one become a professor? (Peter, first generation)

The career orientation in this type’s habitus is revealed in the way they describe mentors, pursue academic careers and organize their everyday research activities, which are strongly aligned with organizational expectations and (e)valuation standards. They portray mentors as career role models worth emulating rather than as persons who have sparked their interest in subject matters. Alexander, for example, another professor from the first generation, describes his close relationship to his academic mentor as a potential career risk because it was evident for him *“that someday you have to get out of this tight environment to make sure that you are not confined by the type of research being done at this place.”*

In general, self-surpassers show a clear strategic orientation in their career decision and use reflexive strategies to mitigate the uncertainties of academic careers. While self-fulfillers focus their narratives on the fulfillment of research interests, self-surpassers consider over and over again what they can do to best fulfill their desire for career success. They typically develop a dual career strategy in which alternative options are kept open in case the desired course does not work. This is especially striking among second generation self-surpassers. While the career decisions of the first generation are primarily concerned with how best to find renowned mentors or get a job in a prestigious institution to secure best possible starting positions, representatives of the second generation ask themselves at each step whether their chosen career path will be the right one or not. Formal status passages (Glaser and Strauss 1971) play an important role for self-surpassers because they are seen as a confirmation for doing well and as a door opener for new career opportunities. Often they wonder whether they would not be better off starting another path, studying an additional subject matter, for instance, (which many then do) or, under certain circumstances, change fields completely to one in which they think they might have better opportunities for success. Kristoff, a second generation philosophy professor, expressed this career strategy: *“Every time I graduated, I always thought about what*

else could I do, so I think it's important to preserve something like inner freedom." After earning his Master's, PhD and Habilitation in philosophy, he always considered alternative careers in high status professions such as law and diplomacy.

As the academic field is new to self-surpassers, they wonder about the conditions of an academic career, and formal requirements become particularly important in this situation. In contrast to self-fulfillers, self-surpassers tend to comply with institutional regulations and consequently adjust their everyday research practices. Doreen from the second generation, for example, who as a junior professor was subject to several evaluations, described her behavior with a metaphor that aligns her current work with career politics:

How to make reasonable politics and nevertheless think about the next election. You have to see, of course, how do you get the balance between reasonably good and high-ranking publications, which are, for example, important. And on the other hand ... to do something that is not just moving from publication to publication, but is also more comprehensive.

Big challenges also offer self-surpassers the opportunity to outgrow themselves. For Alexander, the above-cited professor of the first generation, facing the "*greatest intellectual challenge*" was already crucial when choosing his field of study. These academics often argue that they have developed the willingness to take risks already at school, where their excellent grades and special awards not only distinguish them from their classmates, but give them the opportunity to enjoy such performance competitions in general. Self-surpassers are clearly determined by a competitive logic. They want to be better than their colleagues in the field so as to be more likely to enjoy success in their careers. A research institute director expressed it this way:

Well, I was never afraid that I would trip up [with respect to the performance expectations in the field, the authors], but whether I will bring about that certain extra ingredient that is necessary, so to say. If you stay within the average, then it's over at that point. I mean, in every phase that you find yourself, when you are, so to say, doing good, that basically means, that's pretty much your ceiling, and you practically have to break that ceiling at every step, otherwise it's over. (Alexander, first generation)

While in the first generation competition is primarily geared toward the question of who has the better ideas, second generation surpassers are also concerned about having a temporal advantage in what they are doing. They race through their career qualification phases, "*quickly getting a diploma*" and then "*very quickly adding*" a doctorate to it, move to do their Habilitation rapidly or write a second book very fast, so that they can make a name for themselves early on. They speak of "*efficiently getting through*" research projects, and consider research results that they "*at first don't even know how to interpret*" as career obstacles. A successful race against time becomes a value in and of itself for the second generation. Fulfilling the organizational and professional expectations of an academic career is central to the life planning of this generation. Oliver, a second generation junior research group leader makes this point rather dramatically: "*Yeah, I've worn out one girlfriend along the*

way (laughs), well ok, so a certain toughness in private matters comes with the territory.”

The strong strategically-oriented career behavior of the second generation self-surpassers is also reflected in an attention-seeking behavior, whereby they aim to achieve visibility in the academic field as early as possible. Research group leaders, for example, clearly state that they align group fellows to their interests, and in order to raise the profile of the group, they plan projects with a view toward possible publications, lectures, and workshops; they choose journals based on the impact factor; and even subsume issues of cooperation and networking under the strategic goal of increasing their own visibility. Research topics and methods that might carry the risk of being overlooked or even bestowing a negative image on the self-surpassers are accordingly avoided as these might impede career success. This orientation toward professional advancement is sometimes accompanied by a latent tendency toward a heretical understanding of science: In order to advance themselves in the field, they might develop new fields of research or create new research methods that break tradition with their subject matter and disciplinary boundaries. Biological issues, for example, may be raised anew in the light of philosophy; addressing psychological questions in connection with legal or sociological questions might generate new answers with the help of computer modeling and experiments. Kristoff, for example, explained his career strategy with regard to up-to-date boundary-crossing research:

I try to combine different methodological approaches ... and at the same time I pick up topics that are important in [different disciplines]. It is a balancing act, of course. You should not be too unconventional. Otherwise you are considered a wacko, so you have to know and follow certain standards of course. You have to have a certain credibility in your scientific work, but you should not adapt too much to the mainstream. I believe that it is important to try to connect different areas, to combine different methodological approaches and to generate something new this way.
(Kristoff, second generation)

Overall, self-surpassers can be characterized by a strong willingness to adapt to institutional changes in academia, which nonetheless is rooted in habitual predispositions. The new logics of competition, attention-seeking or standing the test of output and control measures are crucial to contemporary institutional changes and a challenge for these academics. Their presented urge to surpass boundaries lets them believe that their efforts shall be rewarded if they meet the expectations. This orientation applies to both generations, but it is particularly striking in the second generation, which must manage their careers in the new institutional context.

Type 3: Self-Asserting

For the type we call “self-asserting,” the essential driving force is to achieve social recognition in order to sustain their identity (Honneth 1996). Ideal-typically, these academics see themselves as brilliant and always strive to demonstrate this extraordinary quality. They want to bring about a breakthrough in their work, which is tightly linked to their identity. This may sound very similar to the self-fulfilling type;

however, academics of the self-asserter type must first make their way into an adequate social environment where they can prove themselves. Thus, these academics are animated by an enormous desire for recognition. This starts already at school and continues at the university and in academia, even after a successful career. To them, success means that their personal achievement grants them the status of being legitimate players, a feature they share with self-surpassers.

Like the first two types, self-asserters also exhibit a connection between habitus formation and family background. Typically, representatives of this type come from social milieus that offer absolutely no model for their career trajectories; rather, the milieu of origin is negatively loaded for the self-asserter and they want to stand out and distinguish themselves from it. One frequently cited reason is that they grew up in what they consider to be a culturally poor milieu, and they try to distance themselves from its simplicity. Another is that they lost a parent or that one or both parents failed in their own careers, which led to early experiences of failure, deprivation or precarity from which they would like to escape. Lastly, the parents' mindset or lifestyle may have pushed their self-asserting attitudes. 'Get out of that mess' could be the cross-generational slogan for these cases, whereby the urge to distance themselves from their original milieu goes hand in hand with the desire to arrive at a better place. Nina, a recently tenured professor of the second generation found the following words to describe this orientation: *"I always wanted to get away from the environment I was in and get to somewhere where they ticked like I do."*

This quotation also illustrates that this type frequently uses "I" formulations. In contrast to self-surpassers, self-asserters are more oriented by their own norms and expectations than by external requirements, and therefore seek an environment that fits to them. Although the need for social recognition is their central driving force, they cannot concede that appreciation from colleagues is important to them. Rather, they believe that they *"just do [their] thing"* and do not *"compare [themselves] to others"* as Nina, the above-cited professor, insists: *"I don't tick that way at all, I mean, I'm somehow, I'm always kind of in a circle around myself."*

However, along with their I-centeredness, this type's drives are shaped by a compensatory dynamic that does not let them escape from external orientation. The very need to find a recognized position within their new environment forces them to distinguish their performance from others. As a result of the received acknowledgment, a latent conviction of their own genius tends to develop in their biographical histories. Repeated awards for outstanding performance in school and later at the university foster this self-perception. As they struggle to assert themselves over the course of a long career path, this is a vital resource for them to draw upon in stabilizing their I-dispositions. These academics hope that at some point they will prevail with what they believe is such outstanding work that it will be *"impossible to overlook."* Georg, an internationally recognized professor of the first generation put it almost ideal-typically:

There is an enormous gap between the material situation and social recognition, on the one side, and the level of performance, on the other. In my case, that's where this self-confidence comes from, also in my later, so to say, academic career, namely, that I am somehow able to do what I do and do it better

than others, right? And that I'm used to not being recognized for my work or that it takes time, and that I am not liked by others, but that they at some point have to admit, "one can hardly get around his work."

This quotation illustrates how this type of academics considers the professional environment to be full of obstacles and resistance in which they must fight for their place and then defend it continuously. Their actions oscillate between combativeness and willingness to adapt. On the one hand, even after achieving tenure and international recognition they feel like outsiders in their field. Georg, the above-cited professor, described he had the feeling for years that he "*won't have a career,*" because his scientific community remains "*intellectually blocked*" and has refused to recognize him. He believes that he "*didn't fit at the habitus level.*" Michael, a second generation assistant professor, reported similar problems. He described his scientific community as "*smooth and cold in terms of habitus,*" a closed "*clique*" that did not want "*that I actually get to play with them.*" His "*super ambitious*" work was confronted by "*pure ignorance*" there, which is why he is now searching for a more fitting environment: "*People who give me a certain amount of recognition are those who are doing roughly the same thing I do and have roughly the same opinion as I do.*"

However, the quotations also show that self-asserters are deeply convinced of their own genius, so that the uncertainty does not actually lead to a decrease in their professional drive. Quite the opposite, they typically exhibit an attitude of 'now more than ever,' and they are motivated to win recognition in the field through ambitious academic achievements or to legitimize the position they have attained. This urge to impose themselves against resistance and achieve social recognition is a central career driver for self-asserters across generations, so that their receptiveness regarding external demands of an academic career is rather similar to self-surpassers. Self-asserters of both generations report in their narratives that they feel obliged over the course of their professional career to fulfill expectations that run counter to their actual orientations. For first generation academics, this was primarily connected to "*legwork*" they had to do for their mentors. They characterize such work as less interesting or as not up to their intellectual prowess, but they had to do it nonetheless to advance their careers. Second-generation self-asserters describe the demand for networking and passing evaluation procedures to achieve a tenure position in the same way. They fulfill these demands not as a matter of course but to secure their career chances and intellectual freedom or to avoid "*intrigues.*" The case of the assistant professor Michael shows how this strategy could become a "*recognition trap*" (Wimbauer 2012): Although he developed a good professional relationship with his academic mentors in terms of shared topics and research interests, he saw himself "*somehow at a dead end*" regarding his career success. In order to gain greater visibility, he decided to change the university and sought out a well-respected member of the mainstream as his mentor, an obvious career-strategy move. In his new environment, however, his work often encountered a "*lack of understanding*" and even the little positive feedback it did receive did not quite satisfy him, because he found his colleagues "*not so great.*" Thus, his need for recognition remained unfulfilled.

Oscillation is prevalent in career strategies of self-asserters; both generations avail themselves of adaptation and resistance. This basic pattern of a discordant and improvised habitus (cf. Bourdieu 2000: 159–163) is also something that determines their ways of dealing with institutional changes. In the battle for recognition, self-asserters pursue the specific organizational and professional career expectations out of necessity, even when these run counter to their own convictions and values. Meanwhile, they also gladly oppose the rules of the game in order to preserve their specific individuality and authenticity.

Conclusion

Reconstructing the habitus formations of two generations of German academics by applying the concept of responsiveness, as we have done here, results in four important findings. First of all, it becomes clear that academic careers and behaviors are in no way based upon uniform habitual dispositions. Instead, we find various career strategies and manners to deal with the institutional changes. These can be clustered into three ideal types of academic habitus: self-fulfilling, self-surpassing, and self-asserting. The second important finding is that the distinct habitus formations occur across generations, which can be read as evidence for their relative stability over time. Third, we were able to show that these habitus formations are linked to distinct biographical constellations that partly originate from class structures. Intrinsic orientations may be rooted in a privileged social origin (self-fulfillers) or in the dissociation from the original milieu (self-asserters), while the urge to go beyond their limits (self-surpassers) has evolved in an already utilitarian and goal-oriented milieu. Fourth and finally, we found a significant trend toward a new habitus disposition across types. Our concept of responsiveness proved to be useful for all results. It helped to identify the variety of ways in which actors respond to institutional changes and to explain these differences in terms of distinct habitus formations. These formations are rooted in life history and regulate the ways academics relate to and deal with institutional changes in the academic field.

Two limitations of our qualitative study may encourage further research. Although these habitus formations are consistent with typologies from other countries (see “Methods and Data”), their validity across higher education systems needs to be examined. The quantitative distribution of the types across generations, disciplines, gender and nationality also remains an open question worth studying. Gendered, field- and country-specific working conditions may influence the distribution of one of the outlined or the emergence of other distinct habitus formations.

However, our generational comparison also provides evidence of definite adjustments in the ways younger German academics have shaped their careers in the wake of institutional changes since the 1990s. In this respect, our study confirms findings from other works predicting an increase of instrumental career rationality among younger academics (e.g., Felt et al. 2012; Funken et al. 2015; Müller 2014; Ylijoki 2013). What appears to be the new paradigm for second generation academics across our three types is evidently a logic of acceleration (Rosa 2003). Although this logic works quite differently in the three types of habitus formation, generations differ

more than types when it comes to the temporal order of academic careers. While members of the first generation attribute the pace of their careers to their pronounced interest in the subject matter or to the fortune of an early 'flash of enlightenment,' second generation academics interpret time as an essential factor in the competition for career success. They do not see performance alone as being a sufficient guarantee of career success; their strategies have the obvious characteristics of an "acceleration of the pace of work" (Ylijoki 2013: 245; Müller 2014). For this generation, both the organizational career and the production of knowledge itself have become a project which they seek to plan and manage in a timely fashion (Torka 2009: 208–216), so as to be the first or at least to stay in the race. In other words, what we observe in this generation is the internalization of a new concept of performance – one that, in addition to improving scientific knowledge, also includes gathering quantitative performance indicators and to be mindful of time limits. Young academics today assume that career success in academia is not merely contingent upon the quality of scientific performance but also on the efficiency of that effort.

But are these findings enough evidence for a transformation of habitus? A contrary indication is the fact that the second generation's interpretation of new performance criteria differs considerably across habitus formations. The self-fulfilling type, for instance, predicates their ambition for pursuing an academic career on specific topical interests. Both generations of this type represent a traditional academic habitus, but the second generation worries that they might obstruct their opportunities to continue their academic work if they completely ignore the new institutional demands. The way self-fulfillers deal with new performance criteria is determined by the question: How much do I have to bend to these criteria in order not to risk my opportunity to work in academia? In contrast, the self-surpassing type is already quite willing to adapt to the new institutional expectations because their main aim is to achieve career success. Among this type the new performance criteria fall upon fertile ground and lead to considerations of how to best position themselves within these criteria. This disposition spans both generations, but is particularly evident in the second generation. They constantly reflect on academic career conditions and develop self-optimizing strategies in order to succeed. Particularly in this type the distinction between following your own will or institutional demands tends to blur, as Foucault (1988) famously described in his governmentality studies. Finally, the main career driver for the self-assertive type is the "struggle for recognition" (Honneth 1996), which leads to an oscillation between adapting and resisting external demands. On the one hand, these academics strive for authenticity and desire to prevail in science without having to meet expectations that do not correspond to their values. On the other hand, career success is an extremely important signal of recognition for them. This constellation of a contradictory habitus characterizes self-asserters in both generations, but in the second generation it leads to a paradox: These academics interpret the symbolic recognition of having fulfilled the new performance criteria as successfully asserting themselves. All the while they simultaneously oppose these criteria on the discursive level, because such demands and requirements run contrary to their normative ideas of 'true' science.

In conclusion, academics still respond differently to institutional changes due to different basic habitus formations. Even though adjustments to changing career

conditions have minimized the selectivity of habitual dispositions in the second generation, this has not led to a formation of a unified new habitus. Therefore, at least for now, fears of a radical transformation of the academic habitus (Lenger 2015) cannot be confirmed for the German academic system. This is not due to the fact that Germany is a latecomer in terms of institutional changes. Our empirical findings rather show in accordance with Bourdieu that habitus formation is deeply rooted in a scholar's life history and therefore tends to resist constant changes in the social environment. Nonetheless, the habitus disposition, which has proven to be especially adaptable to science policy reforms, indeed exhibits elements of constant self-monitoring and self-adjustments intrinsic to Archer's late modern mode of "meta-reflexivity" (Archer 2012). According to the self-surpassers of our study, these properties are not just a response to institutional changes. The embodiment of this disposition is shaped by individual's social origins and inter-generational social upward mobility (Adams 2006; Sayer 2010; Sweetman 2003). Here once again, we see what Bourdieu already notes in Pascalian Meditations:

"[I]t is likely that those who are "in their right place" in the social world can abandon or entrust themselves more and more completely to their dispositions (this is the "ease" of the well-born) than those who occupy awkward positions, such as the parvenus and the déclassés; and the latter are more likely to bring to consciousness that which, for others, is taken for granted, because they are forced to keep watch on themselves and consciously correct the "first movements" of a habitus that generates inappropriate or misplaced behavior." (Bourdieu 2000: 163)

Early on in their life history these individuals learn to develop the reflexivity and flexibility that is demanded not only by institutional changes in academia but as a general "imperative of late modernity" (Archer 2007, 2012; Sweetman 2003). As a result, reflexive and career-oriented habitus dispositions might gain further ground and eventually dominate the academic field in the long run, while other habitus formations will no longer fit and become marginalized. This may lead to a contemporary paradox: While the competitive orientation of upwardly mobiles may be more suitable to modern academic career conditions than the old fashioned meritocratic orientation of the previously dominant bourgeoisie, some of them may not have the social and financial backing to take the risk of pursuing an increasingly uncertain and precarious academic life.

Acknowledgments We gratefully thank Denis Hänzi for his work in the project "Gender and Excellence in Leading Positions of the Scientific and Economic Fields" on which this article is based, the scientists who generously gave their time for the interviews and the instructive recommendations of the two anonymous reviewers.

Funding The project "Gender and Excellence in Leading Positions of the Scientific and Economic Fields" was funded by the German Federal Ministry of Education and Research and the European Social Fund of the European Union [Grant Nos. 01FP0848 and 01FP0849] from 2008 to 2012.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

References

- Adams, Matthew. 2006. Hybridizing habitus and reflexivity: Towards an understanding of contemporary identity. *Sociology* 40(3): 511–528. <https://doi.org/10.1177/0038038506285672>.
- Archer, Margaret Scotford. 2007. *Making our way through the world. Human reflexivity and social mobility*. Cambridge: Cambridge University Press.
- Archer, Margaret Scotford. 2012. *The reflexive imperative in late modernity*. Cambridge: Cambridge University Press.
- Atkinson, Robert. 2002. The life story interview. In *Handbook of Interview Research: Context & Method*, eds. Jaber F. Gubrium and James A. Holstein. Thousand Oaks, London, New Delhi: Sage.
- Barry, Jim, Elisabeth Berg, and John Chandler. 2014. Gender, managerialism, and performativity in higher education in England and Sweden. *Journal of Workplace Rights* 17(3): 491–503.
- Bottero, Wendy. 2010. Intersubjectivity and Bourdieusian approaches to 'identity'. *Cultural Sociology* 4(1): 3–22. <https://doi.org/10.1177/1749975509356750>.
- Bourdieu, Pierre. 1975. The specificity of the scientific field and the social conditions of the progress of reason. *Social Science Information* 14(6): 19–47.
- Bourdieu, Pierre. 1977. *Outline of a theory of practice*. Cambridge, New York: Cambridge University Press.
- Bourdieu, Pierre. 1984. *Distinction. A social critique of the judgement of taste*. Cambridge: Harvard University Press.
- Bourdieu, Pierre. 1988. *Homo academicus*. Stanford: Stanford University Press.
- Bourdieu, Pierre. 1992. *Die verborgenen Mechanismen der Macht*. Hamburg: VSA-Verlag.
- Bourdieu, Pierre. 2000. *Pascalian meditations*. Stanford: Stanford University Press.
- BUWIN. 2017. *Bundesbericht Wissenschaftlicher Nachwuchs 2017. Statistische Daten und Forschungsbefunde zu Promovierenden und Promovierten in Deutschland*. Bielefeld: WBV.
- Clark, Burton R. 1998. *Creating entrepreneurial universities. Organizational pathways of transformation*. Oxford, New York: Pergamon Press.
- Decoteau, C.L. 2016. The reflexive habitus: Critical realist and Bourdieusian social action. *European Journal of Social Theory* 19(3): 303–321. <https://doi.org/10.1177/1368431015590700>.
- Elder-Vass, Dave. 2007. Reconciling Archer and Bourdieu in an emergentist theory of action. *Sociological Theory* 25(4): 325–346. <https://doi.org/10.1111/j.1467-9558.2007.00312.x>.
- El-Mafaalani, Aladin. 2012. *BildungsaufsteigerInnen aus benachteiligten Milieus. Habustransformation und soziale Mobilität bei Einheimischen und Türkeistämmigen*. Wiesbaden: Springer VS.
- Enders, Jürgen. 2001. A chair system in transition: Appointments, promotions, and gate-keeping in German higher education. *Higher Education* 41(1/2): 3–25.
- Enders, Jürgen, and Egbert de Weert. 2009. Towards a T-shaped Profession: Academic Work and Career in the Knowledge Society. In *The Changing Face of Academic Life: Analytical and Comparative Perspectives*, eds. Jürgen Enders and Egbert de Weert, 251–272. New York: Palgrave Macmillan.
- Etzioni, Amitai. 1996. The responsive community: A communitarian perspective. *American Sociological Review* 61(1): 1–11.
- Federal Statistical Office. 2011. *Personal an Hochschulen 2010. Fachserie 11 Reihe 4.4*. Wiesbaden: Statistisches Bundesamt.
- Federal Statistical Office. 2018. *Personal an Hochschulen 2017. Fachserie 11 Reihe 4.4*. Wiesbaden: Statistisches Bundesamt.
- Felt, Ulrike, Maximilian Fochler, and Ruth Müller. 2012. *Biography and/or career? Young Researchers' Perspectives on Knowing and Living in Contemporary Research*. Wien: University of Vienna.
- Fischer, Ute Luise. 2015. *Anerkennung, Integration und Geschlecht*. Bielefeld: Transcript.
- Flick, Uwe (ed.). 2014. *SAGE Handbook of Qualitative Data Analysis*. London: Sage. <https://doi.org/10.4135/9781446282243>.
- Fochler, Maximilian. 2016. Beyond and between academia and business: How Austrian biotechnology researchers describe high-tech startup companies as spaces of knowledge production. *Social Studies of Science* 46(2): 259–281. <https://doi.org/10.1177/0306312716629831>.
- Foucault, Michel. 1988. Technologies of the self: A seminar with Michel Foucault at the University of Vermont, October 1982. In *Technologies of the self: A seminar with Michel Foucault*, ed. Luther H. Martin. Amherst: University of Massachusetts Press.
- Franzmann, Andreas. 2012. *Die Disziplin der Neugierde. Zum professionalisierten Habitus in den Erfahrungswissenschaften*. Science Studies. Bielefeld: Transcript.

- Funken, Christiane, and Jan-Christoph Rogge. 2014. Wissenschaft als Karrierejob: Die Folgen des verschärften Wettbewerbs im deutschen Wissenschaftssystem. *Wissenschaftlerinnen-Rundbrief Nr. 1*: 7–9.
- Funken, Christiane, Jan-Christoph Rogge, and Sinje Hörlin. 2015. *Vertrackte Karrieren. Zum Wandel der Arbeitswelten in Wirtschaft und Wissenschaft*. Frankfurt am Main: Campus.
- Garfinkel, Harold. 1967. *Studies in ethnomethodology*. Englewood Cliffs: Prentice Hall.
- Glaser, Barney G., and Anselm L. Strauss. 1967. *The discovery of grounded theory. Strategies for qualitative research. Observations*. Chicago: Aldine Publishing Company.
- Glaser, Barney G., and Anselm L. Strauss. 1971. *Status passage*. Chicago: Aldine Transaction.
- Gläser, Jochen, and Grit Laudel. 2016. Governing Science. *European Journal of Sociology* 57(1): 117–168. <https://doi.org/10.1017/s0003975616000047>.
- Gläser, Jochen, Stefan Lange, Grit Laudel, and Uwe Schimank. 2010. The limits of universality: How field-specific epistemic conditions affect authority relations and their consequences. In *Reconfiguring knowledge production. Changing authority relationships in the sciences and their consequences for intellectual innovation*, eds. Richard Whitley, Jochen Gläser, and Lars Engwall, 291–324. Oxford: Oxford University Press.
- Gläser, Jochen, and Kathia Serrano Velarde. 2018. Changing Funding Arrangements and the Production of Scientific Knowledge: Introduction to the Special Issue. *Minerva* 56(1): 1–10. <https://doi.org/10.1007/s11024-018-9344-6>.
- Goffman, Erving. 1990. *The presentation of self in everyday life*. London: Penguin.
- Graf, Angela. 2015. *Die Wissenschaftselite Deutschlands. Sozialprofil und Werdegänge zwischen 1945 und 2013*. Frankfurt/New York: Campus.
- GWK. 2013. *Chancengleichheit in Wissenschaft und Forschung: 17. Fortschreibung des Datenmaterials zu Frauen in Hochschulen und außerhochschulischen Forschungseinrichtungen (2011/2012)*. Materialien der GWK, Heft 34. <https://www.gwk-bonn.de/fileadmin/Redaktion/Dokumente/Papers/GWK-Heft-34-Chancengleichheit.pdf>. Accessed 15 Feb 2019.
- Hackett, Edward J. 1990. Science as a vocation in the 1990s: The changing organizational culture of academic science. *The Journal of Higher Education* 61(3): 241–279.
- Hänzi, Denis, and Hildegard Matthies. 2014. Lust am Erfolg – Pflicht zum Erfolg – Versagensangst. Berufliche Antriebsstrukturen von Frauen und Männern in Spitzenpositionen der Wissenschaft und Wirtschaft. In *Erfolg. Ausprägungen und Ambivalenzen einer gesellschaftlichen Leitorientierung*, eds. Denis Hänzi, Hildegard Matthies, and Dagmar Simon, 246–264. Baden-Baden: Nomos.
- Hahn, Alois. 1988. Biographie und Lebenslauf. In *Vom Ende des Individuums zur Individualität ohne Ende*, eds. Hanns-Georg Brose and Bruno Hildenbrand, 91–105. Opladen: Leske + Budrich.
- Hall, Douglas T. 1976. *Careers in organizations*. Glenview: Scott Foresman.
- Heintz, Bettina. 2008. Governance by numbers: Zum Zusammenhang von Quantifizierung und Globalisierung am Beispiel der Hochschulpolitik. In *Governance von und durch Wissen*, eds. Gunnar Folke Schuppert and Andreas Voßkuhle, 110–128. Baden-Baden: Nomos.
- Henkel, Mary. 2005. Academic identity and autonomy in a changing policy environment. *Higher Education* 49(1–2): 155–176. <https://doi.org/10.1007/s10734-004-2919-1>.
- Höhle, Ester Ava, and Ulrich Teichler. 2016. Career and self-understanding of academics in Germany in comparative perspective. In *Biographies and careers throughout academic life*, eds. Jesús F. Galaz-Fontes, Akira Arimoto, Ulrich Teichler, and John Brennan, 241–269. Cham: Springer International Publishing Switzerland.
- Honneth, Axel. 1996. *The struggle for recognition. The moral grammar of social conflicts*. Cambridge: MIT Press.
- Jansen, Dorothea. 2007. *New forms of governance in research organizations. Disciplinary approaches, interfaces and integration*. Dordrecht: Springer.
- Janson, Kerstin, Harald Schomburg, and Ulrich Teichler. 2007. *Wege zur Professur. Qualifizierung und Beschäftigung an Hochschulen in Deutschland und den USA*. Münster, München: Waxmann.
- Jungbauer-Gans, Monika, and Christiane Gross. 2013. Determinants of success in university careers: Findings from the German academic labor market. *Zeitschrift für Soziologie* 42(1): 74–92.
- Kahlert, Heike. 2013a. Geschlechterkonstruktionen von Hochschullehrenden: Gatekeeping für Chancengleichheit in der Wissenschaft? In *Akademische Karrieren von Naturwissenschaftlerinnen gestern und heute*, eds. Ute Pascher and Petra Stein, 193–220. Wiesbaden: Springer VS Verlag für Sozialwissenschaften.
- Kahlert, Heike. 2013b. *Riskante Karrieren. Wissenschaftlicher Nachwuchs im Spiegel der Forschung*. Opladen, Berlin, Toronto: Barbara Budrich.

- Kaldewey, David. 2017. The Grand Challenges Discourse: Transforming Identity Work in Science and Science Policy. *Minerva* 56(2): 161–182. <https://doi.org/10.1007/s11024-017-9332-2>.
- Kelle, Udo, and Susann Kluge. 2010. *Vom Einzelfall zum Typus. Fallvergleich und Fallkontrastierung in der qualitativen Sozialforschung*. 2nd ed. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Knights, David, and Caroline A. Clarke. 2014. It's a bittersweet symphony, this life: Fragile academic selves and insecure identities at work. *Organization Studies* 35(3): 335–357. <https://doi.org/10.1177/0170840613508396>.
- Kramer, Rolf-Torsten, Werner Helsper, Sven Thiersch, and Carolin Ziemis. 2013. *Das 7. Schuljahr*. Wiesbaden: Springer Fachmedien Wiesbaden.
- Kreckel, Reinhard, and Karin Zimmermann. 2014. *Hasard oder Laufbahn. Akademische Karrierestrukturen im internationalen Vergleich*. Leipzig: AVA.
- Krücken, Georg, Albrecht Blümel, and Katharina Kloke. 2013. The Managerial Turn in Higher Education? On the Interplay of Organizational and Occupational Change in German Academia. *Minerva* 51(4): 417–442.
- Lam, Alice. 2010. From 'ivory tower traditionalists' to 'entrepreneurial scientists'? Academic scientists in fuzzy university-industry boundaries. *Social Studies of Science* 40(2): 307–340.
- Lenger, Alexander. 2015. Arbeitskraftunternehmertum und projektbasierter Kapitalismus im wissenschaftlichen Feld. In *Routinen der Krise - Krise der Routinen: Verhandlungen des 37. Kongresses der Deutschen Gesellschaft für Soziologie in Trier 2014*, ed. Stephan Lessenich, 1004–1015.
- Lutter, Mark, and Martin Schröder. 2016. Who becomes a tenured professor, and why?: Panel data evidence from German sociology, 1980–2013. *Research Policy* 45(5): 999–1013. <https://doi.org/10.1016/j.respol.2016.01.019>.
- Maiwald, Kai-Olaf. 2005. Competence and praxis: Sequential analysis in German sociology. *Forum: Qualitative Social Research [Online Journal]*, 6(3), 2005, Art. 31. <http://www.qualitative-research.net/fqs-texte/3-05/05-3-31-e.htm> 6 (No. 3). Accessed 30 Nov 2018.
- Mannheim, Karl. 1952. The problem of generations. In *Essays on the sociology of knowledge*, ed. Paul Kecskemeti, 276–322. London: Routledge.
- Matthies, Hildegard, and Karin Zimmermann. 2010. Gleichstellung in der Wissenschaft. In *Handbuch Wissenschaftspolitik*, eds. Dagmar Simon, Andreas Knie, and Stefan Hornbostel, 193–209. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Mayer, Karl Ulrich. 2002. Wissenschaft als Beruf oder Karriere. In *Sozialer Wandel und gesellschaftliche Dauerbeobachtung*, eds. Wolfgang Glatzer, Roland Habich, and Karl Ulrich Mayer, 421–438. Wiesbaden: Leske + Budrich.
- Mayer, Karl Ulrich. 2016. Soziologie der Wissenschaftselite. *Kölner Zeitschrift für Soziologie und Sozialpsychologie* 68(2): 377–387.
- Merton, Robert King. 1973. The Normative Structure of Science. In *The sociology of science. Theoretical and empirical investigations*, ed. Norman W. Storer, 267–278. Chicago: University of Chicago Press.
- Möller, Christina. 2013. Wie offen ist die Universitätsprofessur für soziale Aufsteigerinnen und Aufsteiger? *Soziale Welt* 64(4): 341–360. <https://doi.org/10.5771/0038-6073-2013-4-341>.
- Müller, Ruth. 2014. Racing for what? Anticipation and acceleration in the work and career practices of academic life science postdocs. *FQS Forum: Qualitative Research* 15(3): Art. 15.
- Musselin, Christine. 2005. European academic labor markets in transition. *Higher Education* 49(1–2): 135–154. <https://doi.org/10.1007/s10734-004-2918-2>.
- Musselin, Christine. 2010. *The market for academics*. New York: Routledge.
- Oevermann, Ulrich. 2005. Wissenschaft als Beruf: Die Professionalisierung wissenschaftlichen Handelns und die gegenwärtige Universitätsentwicklung. *Die Hochschule. Journal für Wissenschaft und Bildung* 14(1): 15–51.
- Paulle, Bowen, Bart van Heerikhuizen, and Mustafa Emirbayer. 2012. Elias and Bourdieu. *Journal of Classical Sociology* 12(1): 69–93. <https://doi.org/10.1177/1468795x11433708>.
- Pennock, J. Roland. 1952. Responsiveness, responsibility, and majority rule. *The American Political Science Review* 46(3): 790–807.
- Pitkin, Hanna F. 1967. *The concept of representation*. Berkeley: University of California Press.
- Rademacher, Sandra, and Andreas Wernet. 2014. "One Size Fits All" – Eine Kritik des Habitusbegriffs. In *Schülerhabitus*, eds. Werner Helsper, Rolf-Torsten Kramer, and Sven Thiersch, 159–182. Wiesbaden: Springer Fachmedien Wiesbaden.
- Rahlf, Thomas. 2016. The German time series dataset, 1834–2012. *Jahrbücher für Nationalökonomie und Statistik* 236(1): 141. <https://doi.org/10.1515/jbnst-2015-1005>.

- Riesman, David. 1950. *The lonely crowd. A study of the changing American character*. New Haven: Yale University Press.
- Roach, Michael, and Henry Sauermann. 2010. A taste for science?: PhD scientists' academic orientation and self-selection into research careers in industry. *Research Policy* 39(3): 422–434. <https://doi.org/10.1016/j.respol.2010.01.004>.
- Rogge, Jan-Christoph. 2017. *Wissenschaft zwischen Lebensform und Karrierejob*. Dissertation. <http://dx.doi.org/10.14279/depositon-e-6401>. Accessed 27 Nov 2018.
- Rosa, Hartmut. 2003. Social acceleration: Ethical and political consequences of a desynchronized highspeed society. *Constellations* 10(1): 3–33. <https://doi.org/10.1111/1467-8675.00309>.
- Rosa, Hartmut. 2012. *Weltbeziehungen im Zeitalter der Beschleunigung. Umriss einer neuen Gesellschaftskritik*. Berlin: Suhrkamp.
- Sayer, Andrew. 2010. Reflexivity and the habitus. In *Conversations about reflexivity*, ed. Margaret Scotford Archer, 108–122. London, New York: Routledge.
- Schegloff, Emanuel A. 2007. *Sequence organization in interaction. A primer in conversation analysis*. Cambridge: Cambridge University Press.
- Schimank, Uwe. 2011. Gesellschaftliche Differenzierungsdynamiken: Ein Fünf-Fronten-Kampf. In *Soziale Differenzierung: Handlungstheoretische Zugänge in der Diskussion*, eds. Thomas Schwinn, Clemens Kroneberg, and Jens Greve, 261–284. Wiesbaden: VS Verlag für Sozialwissenschaft.
- Schimank, Uwe, and Stefan Lange. 2009. Germany: A Latecomer to New Public Management. In *University Governance: Western European Comparative Perspectives*, eds. Catherine Paradeise, Ivar Bleiklie, Ewan Ferlie and Emanuela Reale, 51–75. Dordrecht: Springer.
- Schmeiser, Martin. 1994. *Akademischer Hasard. Das Berufsschicksal des Professors und das Schicksal der deutschen Universität 1870–1920. Eine verstehend soziologische Untersuchung*. Stuttgart: Klett-Cotta.
- Scott, William Richard. 2001. *Institutions and organizations*. 2nd ed. London: Sage.
- Sullivan, Sherry E., and Michael B. Arthur. 2006. The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior* 69(1): 19–29. <https://doi.org/10.1016/j.jvb.2005.09.001>.
- Sweetman, Paul. 2003. Twentyfirst century disease? Habitual reflexivity or the reflexive habitus. *Sociological Review* 51(4): 528–549.
- Thomas, Robyn, and Annette Davies. 2002. Gender and new public management: Reconstituting academic subjectivities. *Gender, Work & Organization* 9(4): 372–397.
- Torka, Marc. 2009. *Die Projektförderung der Forschung*. Baden-Baden: Nomos.
- Torka, Marc. 2015. Responsivität als Analysekonzept. In *Die Responsivität der Wissenschaft: Wissenschaftliches Handeln in Zeiten neuer Wissenschaftspolitik*, eds. Hildegard Matthies, Dagmar Simon, and Marc Torka, 17–49. Bielefeld: Transcript.
- Torka, Marc. 2018. Projectification of Doctoral Training? How Research Fields Respond to a New Funding Regime. *Minerva* 56(1): 59–83.
- Trowler, Paul R. 1998. *Academic responding to change. New higher education frameworks and academic cultures*. Buckingham: Open University Press. Volmer, Judith, and Daniel Spurk. 2011. Protean and boundaryless career attitudes: Relationships with subjective and objective career success. *Zeitschrift für ArbeitsmarktForschung* 43(3): 207–218. <https://doi.org/10.1007/s12651-010-0037-3>.
- Waldenfels, Bernhard. 1996. *Order in the twilight*. Athens: Ohio University Press.
- Waldenfels, Bernhard. 2003. From intentionality to responsivity. In *Phenomenology Today*, eds. Rudolf Bernet and Daniel J. Martino, 15–27. Pittsburgh: The Simon Silverman Phenomenology Center.
- Waldenfels, Bernhard. 2004. The inside/outside distinction and the issue of boundaries. *Philosophia* 73(1): 71–86.
- Weber, Max. 1904/1949. Objectivity in social science and social policy. In *The methodology of the social sciences*, eds. E. A. Shils and H. A. Finch. New York: Free Press.
- Weber, Max. 1946. Science as a vocation. In *From Max Weber: Essays in sociology*, eds. Hans H. Gerth and Charles W. Mills, 129–156. New York: Oxford University Press.
- Wernet, Andreas. 2014. Hermeneutics and objective hermeneutics. In *The SAGE Handbook of Qualitative Data Analysis*, ed. Uwe Flick, 234–246. London: Sage. <https://doi.org/10.4135/9781446282243>.
- Whitley, Richard, Jochen Gläser, and Grit Laudel. 2018. The Impact of Changing Funding and Authority Relationships on Scientific Innovations. *Minerva* 56(1): 109–134.

- Wimbauer, Christine. 2012. *Wenn Arbeit Liebe ersetzt. Doppelkarriere-Paare zwischen Anerkennung und Ungleichheit*. Frankfurt: Campus Verlag.
- Ylijoki, Oili-Helena. 2013. Boundary-work between work and life in the high-speed university. *Studies in Higher Education* 38(2): 242–255. <https://doi.org/10.1080/03075079.2011.577524>.
- Ylijoki, Oili-Helena. 2014. University Under Structural Reform: A Micro-Level Perspective. *Minerva* 52(1): 55–75. <https://doi.org/10.1007/s11024-014-9246-1>.