Chapter 1
Professions, Proficiency, and Place: An Introduction

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The 18th volume of the interdisciplinary series on Knowledge and Space looks at how people learn, create and transfer knowledge within and across social groups, such as professions, scholarly disciplines or communities. On the one hand, creating knowledge across social groups is important for innovation, especially for creating more radical and unconventional novelty (Nooteboom, van Haverbeke, Duysters, Gilsing, & van den Oord, 2007; Norman & Verganti, 2014; Uzzi, Mukherjee, Stringer, & Jones, 2013). On the other hand, social circles often frame what and how its members think and learn, and so erect structural boundaries to innovation (Abbott, 1988; Fleck, 1935).

Professions are particularly important for the framing of domain-specific knowledge: "The professions dominate our world. They heal our bodies, measure our profits, save our souls" (Abbott, 1988, p. 1). Scholarly research on professions started at least as early as in the 1950s, when Parsons (1951) proposed the term to distinguish professionals from bureaucrats (Siebert & Windrum, 2023). Whereas earlier studies looked at how professions institutionalize distinctively within different national contexts (e.g., Abbott, 1988; Freidson, 1994; Larson, 1977; Macdonald, 1995), more recent research has explored the concept of professionalism within organizational fields, how professionalism varies across space and time, and how professions play a role in institutional and organizational change as well as the partitioning of organizational fields (e.g., Aldridge & Evetts, 2003; Evetts, 2003;

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Faulconbridge, 2008; Faulconbridge & Muzio, 2021; Macdonald, 1995; Muzio, Brock, & Suddaby, 2013; Noordegraaf 2011).

In this book, we aim to take a broader perspective and inquire into the intersection of professions, knowledge and space. Chapters in this volume will address key questions regarding how social groups create, use and spread knowledge, and how these processes relate to geographical space and place, including such questions as: How do professions frame, build and train proficiency? How do members of a profession govern professional competence, knowledge and skill? What are the geographical conditions and social contexts in which these processes are helped or hindered? To answer these questions, scholars from philosophy, sociology, political science, geography, psychology, and history contribute conceptual and empirical work from multiple disciplinary perspectives, including case studies on translators in Israel, engineers in Canada, architects in the UK, or psychologists in Argentina.

Previous volumes in this series have highlighted that social contexts in geographical places shape the meanings, interactions and structures of professions and organizations (Coraiola, Suddaby, & Foster, 2018; Glückler, Suddaby, & Lenz, 2018; Meusburger, 2009). Others have pointed to the important role of institutions, that is, the relatively stable patterns of interaction based on mutually shared normative expectations, in the rise of new and the demise of incumbent professions and practices, such as the Journeyman tradition in Germany (Glückler & Lenz, 2018). What do we know about the role of social processes in professions and knowledge creation? In the following section, we adopt a perspective of the social process of learning as a framing of the relation between profession and proficiency, and to which the individual chapters in this volume contribute differently.

Professions: Social Groups Organized Around Knowledge

In everyday life as well as in academia, the term "profession" is used do denote a type of work or occupation that requires particular expertise and knowledge, which professionals attain by means of special education, training and practice. Professions are associated with occupations that develop more complex or advanced forms of knowledge bases, non-routine practices and conceptual or "white-collar" work (Adams, 2020; McDonald, 2000), such as teachers, accountants, architects, medical doctors, engineers or lawyers (Kuus, 2021). Professions frame the creation, valuation, and reproduction of knowledge. On the one hand, members of a profession together decide what kinds of knowledge are legitimate, valid and useful (Fleck, 1935, 1979). They make knowledge accessible, reproducible, and they share and educate that knowledge across society and space. On the other hand, professions control access to and so exclude non-members from their professional knowledge (Abbott, 1988). The literature suggests several characteristics that encourage a perspective of the social process of learning and interaction: First, members of a profession collectively standardize and regulate knowledge exchange and services (Freidson, 1994; Siebert & Windrum, 2023); second, professions are built on a commonly approved knowledge base (Crompton, 1990); third, professionals are reinforced through training and

education of a defined set of skills and competences (Winch, 2023); fourth, members of a profession share a common thought style and language (Fleck, 1935, 1979; Punstein & Glückler, 2020); fifth, professions are linked to social status, power and elite structure (Adams, 2020; Eyal & Pok, 2015; Fleck, 1935, 1979). Yet how exactly do professions produce knowledge and proficiency?

Proficiency: The Social Process of Gaining Knowledge

Creating knowledge and gaining proficiency depends on social mechanisms and on the spatial context in which professions are embedded. A generic understanding of proficiency is the "ability to do something well because of training and practice" (Oxford Dictionary, 2022), a notion commonly applied in the context of language education. Knowledge, a term most diversely conceived throughout the volumes of this book series, broadly refers to the human understanding of concrete and abstract phenomena (Glückler, Herrigel, & Handke, 2020). And because it is neither given to anyone in its totality (von Hayek, 1945), nor independent from the specific context of meaning, the creation and use of knowledge is subject to the social process: "Knowledge in general, and scientific knowledge in particular, is not only a potential means of access to the secret of the world but also the coming into being of the world" (Stehr, 2010, p. 26). Facts are always recognized and understood within a social, psychological, local and situational context (Fleck, 1935). A key question, then, is how professions master the trade-off between the enduring need for new and unconventional (Mukherjee, Uzzi, Jones, & Stringer, 2017) knowledge, and the need for conventionalization and transfer of existing knowledge.

Extant research has comprehensively appraised the collective nature and social process of knowledge creation. Several concepts and approaches, including *epistemic cultures* (Knorr-Cetina, 1981, 1999), *communities of practice* (Lave & Wenger, 1991; Wenger, 1998), or *epistemic communities* (Cohendet, Grandadam, Simon, & Capdevila, 2014; Haas, 1992) highlight knowledge production as a collective process enacted by social groups (Table 1.1). Yet, whereas adherents to community perspectives of learning have contributed greatly to unpacking the forms, mechanisms and instruments of within-group processes of knowledge creation, important questions remain: If members of a profession constitute the quality and level of expertise or skill necessary to be considered proficient, how can individuals be proficient in more than one field (Banfield, 2023)? And how can professional knowledge be mobilized across the boundaries of a profession (Punstein & Glückler, 2020)?

Perhaps the relatively neglected, yet most subtle approach to studying knowledge creation within and across social groups is Ludwik Fleck's theory of *thought collectives* (Fleck, 1935, 1979). Apart from developing a coherent conceptual language to decipher processes of education, training and learning within a thought collective, Fleck pays dedicated attention to the challenges that collectives face vis-à-vis their external environment and through the course of time (see Table 1.1). Empirical research on inter-professional learning suggests that cross-fertilization and co-creation of new knowledge across professional boundaries often fails due to

Table 1.1 Four approaches to the social production of knowledge

	Epistemic cultures	Community of practice	Epistemic community	Thought collective
Social structure	Science-specific, individual vs. collaborative	Core–periphery structure; multiple membership	Agenda-specific structure around members with legitimacy	Universal structure of esoteric (experts) and exoteric circles (lay); dogmatic vs. democratic structure
Learning at individual level	Adapt to a culture by working in a scientific field	Identify with a community's competence regime	Commit to an agenda; manifesto and codebook	Education; stylish thinking; thought charms; thought solidarity
Learning at collective level	Paradigm shifts in science	Negotiation of new elements brought in by (new) members	Radical shifts in the community lead to changes in the codebook	Endogenous learning by exoteric or esoteric pushes; exogenous learning through new members
Inter-group transfer and learning	*n.a.*	Adjust language; boundary objects (blueprints) or brokers (managers)	Rewrite the codebook to convince people to join an agenda	Master 'hallucination'; translate thoughts into 'less deep' language; collective mood

Note. Adapted from Punstein and Glückler (2020, p. 547). Copyright 2019 by Oxford University Press. Adapted with permission

the social construction of (in)commensurability (Punstein & Glückler, 2020). When professions institutionalize their own specific thought styles (Fleck, 1935, 1979), the thinking of one professional may easily clash with that of another profession. The "hallucination" that may (or may not) occur can hinder joint knowledge creation, as an in-depth study of learning and co-creation across the professions of industrial engineering and industrial design has demonstrated (Punstein & Glückler, 2020). Yet, as Abbot argues, "interprofessional relations are potentially the central feature of professional development" (Abbott, 1988, p. 18). Hence, learning processes and the governance of intangibles and knowledge within groups are important to understand what happens if knowledge is transferred from one social context to another (Banfield, 2023).

Space: The Context of Professional Learning

One way to stimulate change within a profession, is to facilitate exposure, contact and interaction with members of another profession by means of encounter and colocation in a geographical place. The places, where members of different professions meet, create opportunities for local variation in thought styles and potential cross-fertilization (Punstein & Glückler, 2020). Geographers have emphasized the place-specificity of professional knowledge (Agnew, 2007; Gertler, 1995;

Meusburger, 2009; Storper & Venables, 2004). Space, place and spatial networks shape the traveling of ideas, professions and expertise (Kuus, 2021). Spatial context matters at different scales. Obviously, professions are regulated at the national level, causing problems of recognition or accreditation in other jurisdictions. A lawyer or medical doctor trained in one country usually has to acquire additional certification to be allowed for professional practice in another. Variation and friction, however, also occur at subnational, regional levels (Kuus, 2021; Sassen, 2018). Hence, forms of collective knowledge production are influenced by and embedded in various levels of space, such as local and national environments, institutional and socio-economic contexts, and socio-spatial relationships. The book collects a set of original contributions that shed light from distinct disciplinary perspectives on the interdependencies between professions, proficiency, and the geographical contexts and diversity in which these relations unfold.

Structure of the Book

The chapters in this book offer original conceptual and empirical views on how social collectives learn within professions (Part I), how intangible qualities of professions transform (Part II), and finally, how professional life unfolds in space and across different scales and geographical contexts (Part III).

Learning Within Professions

In Part I, researchers analyze the social processes within professions and explore how professionals gain proficiency. In Chapter 2, *Christopher Winch* looks at the standardization of professional competence and asks if professional qualifications are (still) the guarantee of professional ability of its holder. He argues that designers of professional curricula need to focus on more than just "the skills" of the future professionals to construct and maintain professional qualifications sustainably. He draws on the example of professionals in low-energy construction to show that besides skills, systematic (theoretical) and non-systematic (conditional) knowledge, as well as know-how and personal characteristics, such as individual and social attitude and capacity are important attributes of proficiency (Winch, 2023).

In Chapter 3, *Janet Banfield* reconceptualizes the notion of proficiency and challenges the idea of disciplinary professionalization at the intersection of three different scientific disciplines—geography, psychology, and the arts (Banfield, 2023). She demonstrates inventively that professional proficiency is connected to disciplinary legitimacy. Interdisciplinary expertise seems to be sanctioned, undesirable and "inproficient" in academic careers by the members of each discipline (Banfield, 2023). She provides a new understanding of interdisciplinary expertise

and how disciplinary spaces can restrict the acceptance of new knowledge. By doing so, this chapter emphasizes the need for interdisciplinary work on how practitioners can overcome disciplinary boundaries to enable knowledge generation across professions.

Chapter 4 combines the perspectives of expertise, knowledge and strategies and goes one step further into knowledge creation. *Patricia Alexander* intersects the perspective of domain-specific knowledge with individuals' strategic abilities and interest in order to investigate how expertise develops over time. Introducing the Model of Domain Learning (MDL) she takes a psychological and educational view and contributes to a deeper conceptual understanding of expertise (Alexander, 2023). Her three-stages model—acclimation, competence, and proficiency—helps to understand which strategies individuals use to become a proficient expert within a professional domain. She proposes that societal changes may influence the nature of expertise in the future: The development of AI and the technology-rich world change the conditions for professional proficiency and learning.

In Chapter 5, *Rakefet Sela-Sheffy* looks at the profession of translators and argues that professional identity makes a translator proficient in his or her field of expertise (Sela-Sheffy, 2023). Building on a qualitative case study in Israel, she critically reflects the concept of professions and the role of professionalization as status mechanism. She argues that competencies within professions are socially learned and controlled and embodied in the professionals' dispositions and self-perception, instead of being regulated by organizations or institutional agencies. Professional translators deliberately reject the formalization of their work but are not seen as unqualified workers in this very case. The chapter introduces the idea of counter-professionalization and provides a new understanding of the status structure of this occupation.

Governing Professions

Part II includes several chapters that examine the dynamics that transform the intangible qualities of a profession, including data, intellectual property, and professional legitimacy. Chapters 6 and 7 investigate two professions—British architects and US scientists—and show how internal and external professional dynamics (Siebert & Windrum, 2023, Chap. 6) and societal changes (Haas, 2023, Chap. 7) influence the legitimacy and power of professions.

In Chapter 6, *Michael Siebert* and *Paul Windrum* illustrate how the control, the roles and the knowledge of the architectural profession have changed over the post-war period in the UK. Architects used to be one of the most important actors within the private residential sector (Siebert & Windrum, 2023), and their profession was the main catalyzer to organize and integrate the entire work flow, including managing the contractors and legal agencies. Yet, as the authors argue, architectures have gradually lost their powerful position within the housing industry due to endogenous and exogenous factors, and professional practice and knowledge has transformed accordingly.

In Chapter 7, *Peter M. Haas* takes a political science perspective and elaborates on the social foundations of the legitimacy (and authority) of science. In particular, he focuses on the challenges that scientific evidence and its use in politics have had to face in the course of contemporary climate denialism. Analyzing ten criteria of legitimacy Peter Haas shows that three criteria have been the driver of the delegitimization process of scientists in the context of political governance: consensus within the scientific groups, accuracy of their predictions and impartiality. To restore their legitimacy *Haas* discusses further social legitimacy criteria.

Chapter 8 puts the governance of intangibles, data, and intellectual property under the microscope. *Ahmed Bounfour* connects to research on intangibles, such as intellectual property rights, and focusses on the role that intangibles and the acceleration of time and space play for innovation and future forms of knowledge production (Bounfour, 2023). New forms of value creation and business models, such as platforms, show new ways how value is produced and governed. For these reasons, and in contrast to traditional production systems (e.g., Lean), he introduces the concept of the *acceluction regime* to explore the accelerated production of (digital) links in contemporary economies. His concept offers a new analytical perspective to evaluate the role of intangibles for innovation, but also points to political and social issues which may influence economic performances, new dynamics of economic powers, competition, and property rights.

The Spatial Dimension to Shaping Professions

Although the importance of space has become visible explicitly and implicitly in all previous chapters, Part III of this book includes four original chapters that explicitly address the question how professional work unfolds in places and across space. More specifically, the contributions analyze three professions—psychology, engineering, and academia—at several different spatial scales and social dimensions.

In Chapter 9, *Hugo Klappenbach* analyzes the development of the profession of psychology in Argentina since the end of the nineteenth century (Klappenbach, 2023). He shows the evolution and progressive steps of standardization of psychology as a profession within the national context of Argentina: starting with assistance for other professions (such as medicine), followed by the establishment of an undergraduate program in psychotechnics, and finally by a university degree in psychology. His historical reconstruction demonstrates how institutional and political factors shaped the establishment of the profession in Argentina. Overall, his study illustrates how the evolution of professions, and their geographical origin have built the roots for place-specific practices and knowledge.

Wolfgang König, the author of Chapter 10, undertakes a deep historical analysis of a well-known industrial leadership personality (König, 2023). He examines the case of William Siemens (1823–1883), engineer and founder of Siemens corporation, who had been educated in Germany and then moved to England. This comparative case study design facilitates researching the physical, cultural, and technological spaces of professional action in two nations. He argues that the places of England

and Germany had shaped the technological evolution as well as the performance and transformation of the engineering profession differently in each country.

Chapter 11 portrays the engineering profession in Canada and illustrates that the national and work-place context has forced change in the practice of engineers and professional knowledge. New organizational requirements, such as increasing efficiency, have affected the proficiency of engineers nowadays. In her qualitative case study *Tracey Adams* shows that "training-on-the-job" which has been a primary and well-established part of the engineering education has been experiencing a loss of legitimacy during the last years. She argues that the change at the workplace has encouraged new engineers to pursue "information gathering, rather than building deep knowledge". She argues that engineers are likely to face long-term implications for their fiduciary responsibilities (Adams, 2023).

In the final Chapter 12, *Ariane Berthoin Antal* and *Julian Hamann* focus on German academia and claim that the mantra of efficiency risks to offset inter-disciplinary and creative knowledge acquisition. The proficiency of academics is linked to their dedication to becoming a specialist in their area of expertise (Berthoin Antal & Hamann, 2023). The authors argue that "streamlined professionalization" in academia hinders "playful deviations"—*Spielwiesen*—from the primary disciplinary path into different social and intellectual spaces. The chapter proposes the concept of *Spielwiesen* as spaces, where academics can engage with new fields of knowledge. National education systems, disciplinary contexts and career stages provide different opportunities to enable spaces of off-disciplinary learning.

Conclusion

In this book, scholars analyze how the creation, use and sharing of knowledge is bound to collective agency. Professions and proficiency co-evolve. Professions build knowledge, while, at the same time, knowledge institutionalizes the profession. The validity of knowledge depends to some extent on the legitimacy of professional members and leaders as well as on the spatial context. Cultural and institutional spaces help to stabilize but also change the proficiency of a profession. Places and spaces that stimulate inter-disciplinary learning will become more and more important in the digital age. In order to educate future generations, it is necessary to open a professional and expert-centric view and to understand the new kinds of mechanisms and practices that proficient persons need to know in their field of work and expertise.

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