Educational Governance Research 17

Marcelo Parreira do Amaral
Christiane Thompson *Editors*

Geopolitical Transformations in Higher Education

Imagining, Fabricating and Contesting Innovation

Springer

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Volume 17

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ISSN 2365-9548 ISSN 2365-9556 (electronic)
Educational Governance Research
ISBN 978-3-030-94414-8 ISBN 978-3-030-94415-5 (eBook)
https://doi.org/10.1007/978-3-030-94415-5

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

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Chapter 1
Introduction: Geopolitical Transformations of Higher Education

Christiane Thompson and Marcelo Parreira do Amaral

When in 1971, American sociologist Edward Shils commented that there was apparently "No Salvation outside Higher Education" (in analogy to the long held belief of the Roman Catholic Church that there could not be salvation without its ministrations), he was admonishing that universal higher education was a "mare's nest," a swindling "populistic snobbery" (p. 319) that nevertheless would transform universities and "distract" them from "obvious and necessary tasks [the discovery of new truths and cultivation of intellectual traditions] in order to further the questionable goals of turning everyone in society into a member of the middle class and of providing a theatre for the expansion and excitement of the ego" (Shils, 1971, p. 321).

Despite the elitist – at times even reactionary and classist – tone of his commentary, Shils would prove right in his assumption that opening higher education would transform and refigure universities to serve the needs of society. What we up till now considered a major advancement and important development in terms of more access, participation, and societal relevance has again become the object of criticism and controversial debate. This time not for the 'perils' of democratization and loss of intellectual focus, but rather for not being effective, cost-efficient and relevant enough in serving the needs of a society that sees itself as a knowledge society, or more poignantly, knowledge-based economy-*cum*-society.

More recently, additional movement came into the debate about the nature, shape, and function of higher education, as illustrated by the examples below that

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M. Parreira do Amaral, C. Thompson (eds.), *Geopolitical Transformations in Higher Education*, Educational Governance Research 17,
https://doi.org/10.1007/978-3-030-94415-5_1

point at how higher education is subjected to the (re)imaginations and fabrications of different (economic) interests.

The *first* example is the *Minerva University*: Ben Nelson, businessman and former CEO of Snapfish, has sparked an intense discussion concerning the future of higher education. Departing from a fundamental criticism of higher education institutions that – in his mind – hold on to learning practices from the eighteenth century, he founded the so-called "Minerva Project" in 2012, a for-profit Silicon Valley venture capital-backed startup that aims at solving all of higher education's major ailments by means of educational-technological solutions ranging from curriculum design to new assessment technologies and learning infrastructures. In 2014, the Minerva University was founded, a global enterprise that aims to bring the innovative university to the forefront of higher education: "I wanted to create a university that serves as a model for other institutions, by being indisputably the best university in the world," said Nelson immodestly in an interview (The Guardian, 2020). As this quote shows, the Minerva Project was not restricted to the provision of new technologies; instead, its goal is to *reimagine* the future of the university and of higher education. The thoroughgoing transformation of higher education, as imagined and fabricated by Nelson and others, pertains to the reorganization of the physical facilities, the curriculum, seminars and lectures, the role of faculty and staff, etc. In other words, the study experience is revamped from the ground up: At the Minerva University, students do not go to a campus; all their courses are held as online video classes. Housed in shared spaces, the university as an institution is "de-localized" from a definite space as well as from the idea of disciplinarily structured knowledge. The Minerva University does not foresee lectures that are considered "pedagogically unsound" (The Atlantic, 2014); the seminars are strongly based on the students' "fully active" participation and on a radically "flipped classroom" concept. There is a strong emphasis on practical, general skills and competences, such as creativity, problem-solving, and critical thinking. The reimagination of university in terms of place and space is also evident in the 'global immersion' element, by which students travel to different places around the globe. They spend their semesters in different mega-cities worldwide: San Francisco, London, Hyderabad, Buenos Aires, Seoul, Taipei, and Berlin. This resonates with the program's idea to direct their study towards global citizenship and leadership.

The Minerva University makes use of digital technologies in order to monitor and foster the students' commitment to study. For instance, the video platform assesses the students' participation as the seminars move along. In this way, the Minerva University is able to generally and systematically monitor students' studying practices in order to ensure learning. Time and again, Nelson has emphasized that higher education is not "art and science," but rather "science and science" (The Atlantic, 2014). Professors are directed not to speak for longer than a few minutes in class, because – as Nelson argues – when talking for a longer time, students are not "really taught" (The Guardian, 2020). The Minerva University does not build around the generation and dissemination of knowledge and research. Rather, it places the formation of transferrable skills at the center of the institution. Above all, however, Minerva sees itself as a blueprint for a radical transformation of higher education: a scalable, transferable business and operation model designed to disrupt

higher education as it is now (for further discussion, see Parreira do Amaral, Chap. 3, in this volume).

The *second* topical example of how the future of universities has been the subject of the imaginations and calculations of global experts aiming at strengthening the link between higher education and the economy can be found in the work of the *University Industry Interaction Network* (UIIN). Based in Amsterdam, the network was founded in 2012 and aims to "exploit the full value of collaboration and cooperation (open innovation)" of universities and industry in order to "driv[e] and facilitat[e] inclusive growth, entrepreneurial ecosystems and innovation districts through regional engagement." Although the network is an independent think tank, activities are often supported by large corporations such as Siemens, and it provides services to the European Commission (DG EAC, Erasmus+ programme, European Commission Joint Research Centre); collaboration with the latter is active via direct or indirect funding of projects and via the *European TTO circle*, a network established to coordinate national Technology Transfer Offices of major European public research organizations.[1]

In 2018, UIIN published "*The Future of Universities Thoughtbook*" featuring forty imaginations of the future of universities until 2040. As the editors argued, while predicting the future is "impossible and futile," they nevertheless invited authors from various fields related to business universities to submit their views on "possible futures" (Davey et al., 2018). The university 4.0, as they phrased it, is seen as a HE institution, in which "academics and students work in real time symbiotic partnerships with industry, government and societal stakeholders to simultaneously create and implement new knowledge and solutions to address business and social issues" (p. 6). In the *Thoughtbook*, the future of the university is unfolded against the backdrop of four "megatrends" identified by the global consultancy firm McKinsey: (1) emerging markets and urbanization; (2) trade, people, finance, and data: greater global connections; (3) accelerating technological change; and (4) responding to the challenges of an aging world (cf. ibid., p. 7). These are interpreted as requiring a radical transformation of universities in terms of all missions. The *Thoughtbook* not only shows the tenuous and porous boundaries between imagination and diagnosis in terms of the presumed challenges to be faced in the future, it also demonstrates how these imaginations (the possible futures outlined) are conferred the status of evidence that can be used to shape policy: "These possible futures then provide a basis for the better establishment of university and industry strategies, which enable more efficient investment of resources and more productive outcomes" (Davey et al., 2018, p. 5).

The different versions of the *Thoughtbook* – a global, an Australian, a North American edition, and in 2021 a new edition focusing on "Universities in Times of Crisis"[2] – give voice and create a powerful narrative for the transformation of higher

[1] See **European Technology Transfer Offices circle**: https://ec.europa.eu/jrc/communities/en/community/tto-circle-community [last May 22, 2021].

[2] See: https://futureuniversities.com/ [last May 22, 2021].

education into an "ecosystem of knowledge and innovation production," while doing a good job in concealing the preferred political, social, and economic choices that undergird the perspectives portrayed in the collection. In the 2021 edition of the *Thoughbook*, the link to policy circles at the European level becomes even clearer, with Mariya Gabriel, European Commissioner for Innovation, Research, Culture, Education and Youth, among the contributors actively creating "a new vision" for "engaged and entrepreneurial universities."

The *third* example illustrates how these imaginations and visions of the future of higher education find their way into the very physical realms of higher education: *the university library*. Once the epitome of the academic workplace, a space that like no other represented the idea of the *universitas,* the university library has long embodied the core of these institutions, both symbolically in terms of the storage, cultivation, and dissemination of all knowledge, but oftentimes also in very real terms with the library building placed at the center of the campuses. Uncontested sources of – sorted, systematized, sanctioned, canonized, preserved – knowledge, academic libraries were viewed as the paragon site for intellectual *Muße*[3] – for many a precondition of academic freedom. Contemporary discussions abound both about the implications of digital technologies for libraries, on the one hand, and of the role attributed to libraries as infrastructures of knowledge creation, on the other; in this context, libraries are no longer simply seen as studying spaces and knowledge repositories, but rather as "makerspaces," as "happening hubs of innovation and entrepreneurship,"[4] or "incubating space" (Li, 2006). These refigurations of the university library imply various architectonic as well as functional changes. The books and reading materials are increasingly transferred into storage spaces and digitized. Instead of being immersed in the collection of materialized knowledge, the visitors are continuously addressed as creative and active subjects. The space of the library is transformed into a laboratory of various productive spaces. These spaces include the previously mentioned makerspaces with 3D printers as well as recording and video studios. The new facilities in libraries also include media centers and multiple sensorial access to the internet, such as VR or 360° screens. With a manifold of showcases, such as touchscreen tables, the libraries are geared to provide the creative subjects with the relevant information, the needed functions, as well as the support infrastructure. The institutional redesign of libraries even

[3] *Muße* is a German term that translates to "*leisure*" in English. Semantically related to Latin "*otium*" and in contrast to "*negotium*," it refers to "leisure as delimited periods of freedom from temporal constraints associated with the absence of an immediate, time-limiting performance expectation. Leisure needs freedom from the constraints of time, but it differs from mere inaction, at least in its social evaluation in that it is attributed to productivity at a second level. Productivity arises from the freedom of non-action." (Dobler & Riedl, 2017, p. 1, own translation)

[4] As envisioned by promoters: "In fact, university libraries are increasingly becoming where the noise happens—housing makerspaces and co-working labs, hosting events and workshops, and providing a central hub for students to collaborate and innovate." (see VentureWell: https://venturewell.org/university-libraries/)

considers the idea that they must undergo permanent change and rearrange its spaces and resources.[5]

For Michel Foucault, the library as a place was to be seen in relation to the experience made in and of it, and is not intrinsic to the physical space. He coined the term *heterotopia* as an alternative to utopia, an "other space" that for him had the "curious property of being in relation with all the other sites, but in such a way as to suspect, neutralize, or invent the set of relations that they happen to designate, mirror, or reflect" (Foucault, 1986, p. 24). Heterotopic spaces refer to places where people are enabled to make "a sort of mixed, joint experience" (ibid.), i.e. were not confined to being in one place or another but – at least potentially – could experience multiple places at once within the same physical space.

Transforming university libraries into "makerspaces" and "innovation hubs" arguably fixes and predefines the uses and experiences made in them. In line with Marc Augé's concept of "non-place," the anthropological space (Augé, 1995) of the library is stripped of its features as historicized social space (i.e., a place characterized by an identity, relations, and history) and re-specified as a "non-place," an ephemeral, transitional place with disambiguated purposes: that of production. In Augé's own words:

> Clearly the word "non-place" designates two complementary but distinct realities: spaces formed in relation to certain ends (transport, transit, commerce, leisure), and the relations that individuals have with these spaces. Although the two sets of relations overlap to a large extent, and in any case officially (individuals travel, make purchases, relax), they are still not confused with one another; for non-places mediate a whole mass of relations, with the self and with others, which are only indirectly connected with their purposes. As anthropological places create the organically social, so non-places create solitary contractuality (Augé, 1995, p. 96).

Refiguring the physical space of the university library aims at actively creating new profiles of academic work and thinking. Tellingly, Moisio quotes a vice-rector of a university stating that "the new physical environments of universities should 'breathe' creativity and embody the university as a physical and spiritual 'ecosystem.' According to this individual, this new ecosystem signals the departure from the old factory or school type university that belongs to the industrial era and should be forgotten" (Moisio, 2018, p. 89).

To be sure, reshaping the places and spaces of higher education has also implications for the archetypal subjectivities that are to populate them – students, teaching, and research personnel are also reimagined as possessing specific attitudes, dispositions, skills, and competences. Specific forms of subjectification and subject

[5] Indeed, reshaping and transforming libraries in a cooperative fashion is even seen as constituting a comparative advantage, as illustrated by the Berlin University Alliance, which integrated the services of all academic libraries in City State of Berlin. Eight libraries work together in "*software, services and smart solutions for handling academic media", which arguably not only produces user benefits but allegedly also reduces overall costs through common management and jointly negotiating contracts* with publishing houses and software suppliers (see Berlin University Alliance: https://www.berlin-university-alliance.de/en/commonalities/infrastructure/libraries/index.html).

formation come to the fore in bringing about a new learning culture, an entrepreneurial environment, and global economic players who invest in their human capital and (business) careers.

In summing up this section, there are many other connections between these examples and other developments in higher education, many of which are discussed in the chapters in this volume.

We chose these examples as the point of departure for this introduction, as they demonstrate the transformations and shifts in contemporary higher education. They illustrate the many layers and spheres, interactions, connectivities, spaces, and subjectivities affected by the current imaginations and fabrications of the future of higher education. By these, higher education is reframed and reorganized according to the idea that we live in global and digitalized knowledge societies. To be more precise: education has been conferred the task of producing individuals equipped with both the skills and competences considered key to innovation but also displaying the attitudes and dispositions that will secure continuous innovation and economic growth. In order to ensure this productivity and innovation, the university is dislocated and relocated in various ways. The examples demonstrate the departure from their traditional institutional forms – interestingly, forms that have exhibited a staggering level of stability and longevity since their initial foundations in the medieval period, such as in Bologna or Oxford, an achievement only surpassed by the Catholic Church.

As the first example illustrates, the locus of the Minerva University is not a campus but the "entire world," as it were. The way that the curriculum is set up demonstrates the detachment from a particular knowledge base, a thought collective, or scientific discourse. Thus, the Minerva University is dislocated from traditional forms of academia in order to enable new connectivities and relations. While the classical university has been instituted in close connection to the nation-state and its cultural and scientific development, the Minerva University strives to go beyond the framework of the nation-state and other political frameworks, taking on many traits of business enterprises. Exemplifying well the geopolitical transformations higher education is undergoing, the Minerva University is a *global endeavor* in that it locates itself "in the middle of it all": It makes itself the addressee for every prospective student in the world who wants to attend the most competitive and selective university in the world. To be "in the middle of it all" also implies that the Minerva University sees itself as a model institution; in other words, it sees itself as an archetype when it comes to defining what a university is to be in the future. In this context, it is important to note the subversive strategy: Minerva is about the disruption of the "traditional university" by using elements of ed-tech utopianism, marketing, and venture-capitalism; it is about the institutional relocation of universities within new globally constructed politico-economic fields.

This example also indicates the far-reaching material refiguration of higher education. The classical university campus is left behind, and this refigures the social constitution of and the membership in the university (on the relation of space and

academic relations, see Friese & Wagner, 1993). The spaces of scholarship – the office, the library – and that of exchange – the commons, the campus – are all either radically changed or done away altogether. The Minerva University rests on the digital transformation of higher education and on the interconnectedness to other spheres of society, in particular the economy.

The second example of the *University Industry Interaction Network* likewise brings to the fore both the sedulous activities of networking, co-opting, lobbying, etc. of interested proponents and the careful symbolic (re)construction of the university of the future by means of visions, narratives, and imaginaries of a bright future of "engaged and entrepreneurial universities." The university is placed as a node of myriad connectivities.

Researching the 'transformations of higher education' has a considerable history in the field. Most prominent is the discussion of the transitions from 'elite' to 'mass' to 'universal access' forms of higher education (Trow, 1973, 2007; see also Brennan, 2004). Trow's modelling, for instance, aimed at considering the changing forms, nature, functions, organizational and administrative features, types of governance, and social/political relations of higher education as it transitioned from one phase to another. As such it provided useful ways of thinking about how higher education systems changed in modern industrial societies. The different phases of the development allowed for the description of ideal-typical components of 'national higher education systems' and for the definition of problems in terms of functional relationships among the components, in terms of problems arising from the shift from one phase to another, but also in terms of the relationships HE entertains with social and political institutions in a particular country (cf. Trow, 2007, p. 35). While this literature still provides insightful ways of thinking about higher education development, to a large extent it does not allow us to explore higher education as embedded in a global context, in which HE is itself a major feature, namely a central element of knowledge-intensive capitalism. In other words, the current transformations in higher education dealt with in the chapters of this volume focus not simply how HE changes in its transition from elite to mass to universal access forms, but how the problems arising from such shifts are further exacerbated due to HE being the locus and focus of the knowledge-based economy, which is in our view best explored from a geopolitical perspective.

The remainder of this introduction aims to provide a geopolitical perspective on the transformations in higher education adopted in the chapters collected here. In the pages that follow, we first discuss the theme of the volume, remark on the current geopolitical context, and relate the general topic to adjacent debates in higher education research. We conclude the introduction with a brief overview of the chapters included in the book.

1.1 A Geopolitical Perspective on the Transformations in Higher Education: On the Theme of the Volume

The chapters comprising this volume deal with various aspects and in part substantially different facets of post-secondary and higher education. What ties these diverse discussions together is the observation that a closer examination of the topics and the changes they entail brings the geopolitical dimension into view. This dimension certainly warrants further investigation, because it implies that even further-reaching changes are on the horizon. As such, they span various thematic, geographical, and disciplinary boundaries to contribute with original, cutting-edge knowledge on an array of issues related to how education and science are being reimagined as part of a (new) geopolitics of knowledge. The volume gathers recognized and emerging authors from different continents and working from various conceptual viewpoints and methodological positions, contributing to a genuine interdisciplinary debate on the topic. Most chapters were originally presented and discussed at a symposium that took place at the University of Münster, Germany.[6]

The main theme of the book revolves around how at various levels – supranational, national, local, but also at the level of individuals and corporations – a premium has been placed on knowledge, and knowledge generation activities have been made the centerpiece in imaginations of the future in social, political, and economic terms. Innovation, science capacity, and education – representing the main missions of higher education (HE) – thus are considered key to succeeding in global economic competition. Educational and research institutions, and hence the human capital they embody, have become a constant *topos* in the imaginations of knowledge-intensive capitalism and of how they are to contribute to innovation and economic growth. Higher education is central to the realization of this vision and is invoked as the prime *locus* of the production of (proprietary) knowledge (such as patents, innovations of all kinds, etc.), of innovative learning environments, and not least, of human capital and associated subjectivities that will drive innovation. In geopolitical terms, education and research are seen as *assets* that play a central role in generating both value and comparative advantages in the (imageries of) global competition, competitiveness, and transnational value chains. They are placed at the forefront of developments that are arguably reshaping individuals, society, and economy.

The edited volume explores these developments in HE in terms of changing relations between society, economy, science, and individuals. A key concern is to explore whether and how they are constituting a (new) geopolitics of knowledge, in which innovation, science, and education become key features of the strategic global positioning of individuals, companies, regions, and states. Taken together,

[6] The symposium "*A (New) Geopolitics of Knowledge? Innovation, Science and Education reshaping individuals, society and the economy*," held July 11–12, 2019 at University of Münster, Germany, was organized in collaboration with S. Karin Amos. We thank the generous funding by the University of Münster and the University of Tübingen.

they consider the futures that these developments imply and promise, whilst opening up lines of thought that might bring other alternatives into play.

The transformations discussed in the various chapters of the volume all share the attention to the political, discursive, and material/structural processes taking place; they attend to their global and local interrelations and tensions, and not least, the chapters collected demonstrate a shared interest in deliberating the impact of these on higher education, including their implications for individuals, research infrastructures, as well as for teaching and learning environments.

1.2 A Remark on Geopolitics

Three different chapters deal with the topic of geopolitics in more detail. In this introduction, it suffices to briefly situate the debate in conceptual terms, thus also relating it to other relevant bodies of secondary literature.

The term *geopolitics* has a long history. Understood in the classical sense, it refers to a contested understanding of the state that focuses on territorial expansion and control of natural resources and populations. The usage of this term is conceptually connected to German National Socialism and the aggressive attempt of expanding and building a "Third Reich," and this demonstrates the "territorial bias" of the classical term, i.e. the idea that populations are naturally located and connected to a particular space.[7] The nation-centric or territory-centered view has also dominated the block formation of the Cold War – as can be seen with the NATO as a geopolitical institution par excellence.

In summary, the classical conception of geopolitics primarily refers to the notion of claiming territory and controlling spaces as well as resources that are strategically important (see Moisio, 2018). It is obvious that the classical notion of geopolitics can still be found today. Take, for instance, the Russian annexation of Crimea, a maneuver that has been interpreted as an outdated geopolitical strategy (Moisio, 2018**,** p. 2). However, there has been a considerable theoretical shift regarding the concept of geopolitics. This shift is related to a changed idea of space and spatiality.[8]

The notion of space as something that is natural and pre-given has been heavily criticized. In order to think and understand space, it was important to consider the networks and relations that are social-spatially constituted. Correspondingly, it has been argued that "spatiality is not confined to territoriality" (Kuus, 2017, p. 5). The

[7] To be sure, this idea is deeply rooted in Western science – it has been challenged in the postcolonial and decolonial studies. See, for instance, the discussions surrounding Immanuel Kant's conceptualization of race (Kant, 1968) and the corresponding philosophical debate (cf. Mills, 2014). In his work on epistemic disobedience, Mignolo (2009) has thematized the importance of shifting the "geography of reasoning" (Mignolo, 2009: 14).

[8] It is not surprising that the spatial turn in the humanities and cultural studies has also emanated from the breakdown of the USSR and of the block formation of the Cold War (Cf. Soja, 1989).

idea of relational configurations that are structured by political imaginaries and global connectivities is salient for a different understanding of geopolitics (see also the chapters by Partaken, Chap. 5 and by Parreira do Amaral, Chap. 3, in this volume). Thus, in referring to the concept of geopolitics, the chapters in this volume call attention to the politics of spatializing HE in terms of policy, practice, and research in relation to its fulfilling specific functions related to the so-called global knowledge-based economy.

In line with this and adding another important dimension to the idea and critique of a "geopolitics of knowledge,"[9] Sami Moisio (2018) linked the concept of geopolitics to the knowledge-based economization on a global level (see also Moisio, Chap. 2, in this volume). The knowledge-based economy is about the "valorization of the general intellect in the form of knowledge- and design-intensive commodities (real or fictitious). This involves the production, management, distribution and use of knowledge as a key driver of economic growth, wealth generation and job creation (…)" (Sum & Jessop, 2013, p. 284).

In this sense, the knowledge-based economy functions as an imaginary of a preferred future that produces specific narratives and sustains particular policy paradigms (Jessop, 2008). Sami Moisio has coined the term "knowledge-based economization," which shifts attention to "the material processes of knowledge-intensive capitalism (…), and to the processes whereby this form of capitalism is constructed discursively through imageries and objectifying social practices" (p. 1).

A further strand of research that added important insights to the discussion of how higher education became a central pillar of regional geopolitical imaginations is that of global regionalisms in HE (Robertson et al., 2016; see also Parreira do Amaral, Chap. 3, in this volume). In her recent book, Susan Robertson and her associates have delved into the projects, processes, and politics involved in understanding how HE has been integrated in global regionalisms. Although regions may be viewed as phenomena at micro- or macro-levels, most conceptual thinking around regionalism centered upon world regions, emphasizing spatial-geographical relations and mutual interdependence among nation-states. As a topic of scholarly interest, regionalism refers to large-scale politico-economic projects of regional integration in different world regions. As a form of geopolitical coordination, regionalism aims at creating, maintaining, or modifying the order of a world region by means of a formal institution-building project or policy, such as the EU, ASEAN, or other regional international organizations.

In this strand of research, examination of the role of the EU and other inter-/supranational organizations in forms of "regulatory regionalism" (Jayasuriya, 2010; Robertson, 2010) offered insights into the insertion of higher education in regionalization projects and its constitutive role in competitive imaginations of the knowledge-based economy. Referring to the role and impact on the European level, most policies pertaining to science, education, and training have been crafted during

[9] See also the chapter by Parreira do Amaral for a discussion of "Geopolitics of Knowledge" from a decolonial perspective (see also: Mignolo, 2002, 2003; Dussel, 1993, 1999).

the past 20 years, thus in the aftermath of the EU Council's resolution to become the most competitive knowledge-based economy in the world (see also Rambla, Chap. 10, in this volume). Very briefly, education and research have been embedded in the European economic imaginaries, such as the Europe 2020 or the Innovation Union strategies. In particular, implications for education research have become most visible in the Horizon 2020: EU Framework Programme for Research and Innovation. While previous Social Sciences and Humanities (SSH) research frameworks included their own funding scheme, the new program stipulated that social sciences and humanities research was to be integrated – mainstreamed and embedded as a cross-cutting issue – into each of the priorities and objectives of the framework, thus directly contributing to the evidence base for policy-making. Within the new research framework starting in 2021, this "embedding" has been cemented and amplified to serve Europe's missions.[10] This integration of every program into Horizon 2020 has not only changed the previous disciplinary and thematic structure of funding schemes towards more focused resourcing of research that tackles strategic interventions and instrumental solutions, but has also exacerbated hierarchical disciplinary divisions and created new tensions for SSH. One of us has argued that education research – along with other SSH disciplines – is being reduced to its potential for techno-scientific innovation and its instrumental/practical contribution to tackling societal challenges (Parreira do Amaral, 2019). This affects not only its relationship to policy, but also has important implications for (epistemic) governance (see the chapters by Zapp, Chap. 9 and by Boyadjieva, Chap. 8, in this volume).

Further, in attempting to understand the logics behind the (new) geopolitics of knowledge, it is crucial that attention be directed to the global dimension of education, which have been variously discussed with reference to rationales common in education development and policy that can be subsumed under the umbrella of an expanding Global Education Industry (Verger et al., 2016; Parreira do Amaral et al., 2019). Concepts such as economization, commodification, privatization, digitalization, marketization, and standardization have shaped the transformation of education across the globe. It can be argued that the mutual rationales, logics, and modes of operation at present are not only central features of the global dimension of education (see Parreira do Amaral & Thompson, 2019), but, more significantly, that these concepts are built on prevailingly economic foundations that have come to permeate education reform and restructuring across the globe. Against this background, it comes as no surprise that these developments provide a fertile soil and productive thrust behind the geopolitical aspirations of different players.

The following section briefly presents an overview of the chapters included in the book.

[10] Missions refer to how the research framework Horizon Europe has established goals for research, legislation, and policy: "EU missions are commitments to solve some of the greatest challenges facing our world like fighting cancer, adapting to climate change, protecting our oceans, living in greener cities and ensuring soil health and food." See: https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe/missions-horizon-europe_en [retrieved May 20, 2021).

1.3 Overview of the Chapters

The book is unique in that it takes up a broad perspective to investigate whether (and how) the ways in which innovation, science, and education reshape individuals, society, and economy differ in a variety of institutional environments. The volume is organized into three parts: the chapters included in *Part I* deal with the different '*imaginaries, spaces and tensions'* that drive the geopolitical imaginations and contemplate the implications for the role and validations of science and education as they are both framed *by* and integrated *in* politico-economic projects of innovation. *Part II* presents and discusses chapters focusing the many "*places, institutions, interactions"* involved and the *connectivities* entailed in producing the imagined learning environments as well as sites and modes of knowledge production that are said to nurture the skills and competences driving innovation and economic growth. *Part III* concentrates on issues surrounding the "*subjectivities and subject formations*" of the archetypal subjectivities that are to be produced – innovative, entrepreneurial, connected – and the deployed governmental technologies. This section includes critical reflection of the implications of these developments for the types of knowledge favored and promoted.

Sami Moisio argues in *Chap. 2* that knowledge-intensive capitalism emerges from a geopolitical constellation in which several aspects or dimensions – such as space, cities, education, technology – overlap. More specifically, the author demonstrates how spaces of knowledge-intensive capitalism are constantly re-territorialized in political action: The ideal economic subject finds a conducive environment in creative cities, learning regions, innovative ecosystems, and the like. The "creative" capitalist collective subjects have to be produced, also in the space of higher education, since they play a crucial role in the production of territories of wealth and competition. According to the author, it will be a central task of a critical social science to examine the exclusionary effects of this polarizing political-economic process.

In *Chap. 3*, Marcelo Parreira do Amaral argues that higher education has become part of a *New geopolitics of knowledge* that refers to the integration of higher education in the imaginations and calculations within the global knowledge-based economy. This integration, the chapter argues, reshapes and transforms HE missions and infrastructures. After introducing the geopolitical perspective, the chapter presents two distinct sets of contexts that shape contemporary transformations in higher education: global regionalism projects and the Global Education Industry. Referring to the creation of international education hubs and the (imagined) future of higher education projected by the Minerva Project, the chapter discusses how current transformations in higher education can be better grasped by adopting a geopolitical lens.

Karin Amos outlines in *Chap. 4* the shift from a state-centered model of public education to a late modern version. The latter is characterized by the orientation toward efficiency, maximization, as well as optimization. In this market-driven context, education becomes a tradable good by the digitization of learning over the life

span. Amos demonstrates how this development affects the universities and how it is fueled by transhumanist ideas. What is lacking, Amos argues, is a pedagogical vision in the sense of a fundamental being with: How do we want to live together? In the final section of her chapter, Amos presents readings by Escobar and Haraway to reflect upon this important question.

Chapter 5 of this volume deals with "knowledge production" and "knowledge transfer" in view of postcolonial contexts and power confrontations. Drawing on the postcolonial studies, James Partaken first delineates how the processes of colonization permeated education, bringing about colonized education and knowledge. Decolonization, therefore, amounts to a different sort of knowledge production, as Partaken argues following Chen's *Asia as Method*. Partaken then notes that the current discussions have overlooked or underestimated the transfer of knowledge. In order to understand the geopolitics of knowledge and to critically discuss the corresponding hegemonies, scholarly attention has to be given to "knowledge in motion."

Fazal Rizvi, in *Chap. 6*, examines how the global rise of China and other Asian countries, such as Singapore, Korea, and Taiwan, is transforming the geopolitics of higher education. This rise, he argues, has led to a new geography of trade; new economic and political combinations; new financial actors, investors, and donors; and has weakened American hegemony. The economic rise of China in particular has been accompanied by the growing strength of its centers of knowledge production and innovation. Its research achievements in computational and commercially oriented experimental sciences as well as the cooperative research links to leading Western universities have been particularly noteworthy. However, with China becoming politically assertive on the global stage, these research collaborations are viewed with considerable suspicion by the political class in the West. This paper documents the tensions inherent in this complex relationship as a way of exploring the possibilities, challenges, and limits of research collaboration between universities in China and the West.

Dell Delambre offers in *Chap. 7* a discussion of epistemology in the "New" Geopolitics of Knowledge. He argues that, in understanding the new geopolitics of knowledge, it is imperative to think epistemology and practice together since most of the contemporary tensions can only be grasped by translating the great complexity of reflection into practical projects. One such project is presented and discussed as a theory of "creative tension of sense". The chapter not only provides readers with a good exercise in recognizing and accepting other ways of thinking and doing, offering thus an example of decolonization of the old geopolitics of knowledge; Delambre also presents an alternative mode and vision of the future of the higher education, an institution that for him can play an important role in bringing theory closer to practice and offering a 'new' paradigm of knowledge.

In *Chap. 8*, Pepka Boyadjieva examines the (un)avoidable clash that higher education faces due to the contradictory relations between wider missions and global rankings. The meaning or idea of higher education as an institution and autonomous social sphere is outlined before presenting a multidimensional normative model of higher education missions. Even though rankings are indispensable for the

orientation of several stakeholders, they remain problematic because they neglect the diversity of higher education institutions and privilege research-intensive or English-speaking institutions. Furthermore, the author demonstrates that rankings do not adequately reflect the public benefits derived from higher education. On the grounds of these shortcomings, the chapter concludes with the question whether the focus on the universities should be shifted from rankings to missions.

Mike Zapp's point of departure in *Chap. 9* is that universities have begun to resituate their agency in the field of global governance. By establishing themselves as global knowledge actors, universities realign themselves according to the demands of the global governance agenda, in particular the Sustainable Development Goals (SDG). Due to the establishment of new actor networks, there are considerable shifts or alignments with respect to research and higher education. Zapp also delineates the risks and problems that come along with the development to global epistemic governance, especially the risks of politicization and patronization.

Chapter 10 explores the policy changes of the European Union with respect to the geopolitical construction and enhancement of regions in the field of education. As Xavier Rambla shows, two intermingling processes are at work, i.e. policy actors' attempt to legitimize their engagement by using instruments like performance indicators, and the travel of policy instruments into the different localities and regions. While these developments have brought about a higher sensibility of employment and education policies with respect to local realities, some aspects of education and lifelong learning have been sidelined or homogenized. Since the primary focus is on employment, according to Rambla, other biographical experiences are not taken into consideration in these new 'innovation eco-systems' of education.

Eva Hartmann expands in *Chap. 11* the discussion of geopolitical transformations to Further Education and explores the link between the knowledge-intensive economy, education, and geopolitics. After having outlined the increasing importance of Multinational Companies (MNC) as part of globalization and the complex relationship between geopolitics and geoeconomics, Hartmann explores the degree of autonomy MNCs have when creating their own education and training. These findings are related to the results of a recent pilot study in which the author explored the degree of internationalization of corporate education that ranges from initial vocational education to leadership training of the top management. In each of the cases presented, geopolitical and geoeconomic implications are reflected, including the developments of a new research agenda.

In *Chap. 12*, Marvin Erfurth explores some of the geopolitical transformations that Singapore and the United Arab Emirates are currently pursuing by implementing so-called education hub projects. The author demonstrates that governments primarily adopted this approach in order to be more competitive. The geopolitical transformations pursued via this policy create a politicized environment mainly for the American, Australian, and British universities operating in education hubs in which they are both central subjects and objects of diplomacy and commerce. It is primarily the universities that need to act strategically when it comes to their

contribution to the social and political environments. Erfurth argues that this leads to compromises with ramifications not only for students, faculties, and universities as such, but also for the societies in which they operate in terms of development and beyond.

Christiane Thompson, Sabrina Schröder, and Daniel Wrana investigate in *Chap. 13* how both the digitization and management of student success change what it means to be a "good" or "promising" student. The competitive university makes use of tools and strategies to address prospective students even before they choose their course of study. The authors demonstrate how assessment tools as used in Germany and beyond have to be seen as a form of governmental subjectification. When taking into consideration the collection and analysis of data surrounding student success and failure, it becomes obvious how this governmental subjectification is increasingly supplemented by the forecasting of student success.

Chapter 14 turns toward the strategies of digitized learning and its corresponding forms of algorithmic sense-making. Against the background of the history of the development of algorithmic systems, Sieglinde Jornitz and Denise Klinge demonstrate how human learning and human behavior in general are reduced in order to make it accessible and processable for these systems. By exemplarily analyzing digital learning tools, they lay out these reductions as well as oversimplified conceptions of learning and student work. Turning toward the idea of "Bildung," the authors argue for the importance of time and ambiguity in learning and acquiring knowledge.

Jozef Zelinka critically scrutinizes in *Chap. 15* the discourse surrounding the so-called twenty-first-century skills and competencies. More specifically, the author demonstrates how the most relevant and dominant skills frameworks – among others by the OECD, the European Commission, as well as the World Economic Forum – reshape what it means to be a "knowledgeable" and "productive" self, while at the same time redefining the sphere of work and education. These frameworks have to be seen as complementary to a geopolitical space that is driven by competition, excellence, as well as the permanent individualized responsibility to innovation. There is a strong emphasis on outcome-oriented skills and competencies, whereas quality-based aspects, like patience and a culture of failure are hardly taken into consideration.

The volume closes with a *Conclusion* by Marcelo Parreira do Amaral and Christiane Thompson that both offers a synthetic summary and recapitulation of the insights gained in the prior chapters and weaves the different threads from the various discussions into new understandings that directly bear upon the "condensation points" of a (new) geopolitics of knowledge that are increasingly becoming visible. The conclusion attends to the different layers, interactions, networks, spaces, and subjectivities touched upon and stirred up in the geopolitical imaginations in order to deliberate on questions pertaining to the relationship(s) between economic and social imaginaries, not least critically reflecting on the (potential) social dislocations that the developments dealt with in the collection have shown.

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Part I
Imaginaries – Spaces – Tensions