Educational Governance Research 17

Marcelo Parreira do Amaral
Christiane Thompson *Editors*

Geopolitical Transformations in Higher Education

Imagining, Fabricating and Contesting Innovation

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Volume 17

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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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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

Chapter 2
In What Sense a Geopolitical Knowledge-Based Economy?

Sami Moisio

2.1 Introduction

Over the past three decades, it has become typical to argue that we are living in an era marked by the prominence of knowledge in all societal, economic and cultural developments, as well as pronouncements about the knowledge-intensive form of capitalism as an important subtext for inter-state relations and inter-spatial competition. Inter-spatial competition has become a sort of global attraction game and rivalry: the more notable firms that operate in high-tech in particular or creative industries more generally locate their functions within a given state borders, the more this signals the competitiveness of the state and cities and regions within states (Moisio, 2008). In short, the purportedly ever-intensifying competition between places to host economic activities in the upper parts of the value chain signals that the knowledge-based economy is a domain of social and political action that stretches well beyond the mere economic practices, transactions and commodities that are customarily associated with such economy.

In this chapter, I seek to geopoliticize the purportedly geoeconomic present. In particular, I argue that the contemporary knowledge-intensive capitalism is a historically contingent geopolitical constellation that brings together a range of issues such as space, cities, states, human capital, education, and technology. The paper proceeds as follows. In section two, I discuss the concept of knowledge-based economy. In section three, I make some notes on the concept of knowledge-based economization, which refers to the knowledge-based economy as a set of discursive and material capitalist processes. In section four, I single out some of the geopolitical dimensions of the process of knowledge-based economization. I underline that the

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relational spaces of knowledge-intensive capitalism are constantly re-territorialized in political action that seeks to manage, regulate and fix in place the restless circulation of capital. I conclude the chapter by presenting some thoughts regarding the ways in which knowledge-based economization is a polarizing political-economic process – both spatially and socially.

2.2 On the Concept of the Knowledge-Based Economy

Authors like Chris Freeman (1995) have argued that the idea of "national systems of innovation" – a concept of which came to symbolize the knowledge-based economy in the 1990s – can be traced back to the work of Friedrich List in the nineteenth century. Accordingly, List's conception of the national system on political economy ([1841] 1991) already highlighted that nations should not only acquire the achievements of other more advanced nations, but should increase them by their own efforts. These would include state-orchestrated technical education, science and training as well as research and development practices; the state should also carry long-term policies for the industry and economy more generally. The growth of government laboratories in the nineteenth century would indicate not only how the method of invention became the greatest innovation of the nineteenth century, but also how the "national" innovation process came to determine the competitiveness of the state more generally (Freeman, 1995, 9).

Over the past four decades, we have been experiencing the rise of new kinds of knowledge-intensive capitalism, labelled as, for instance, soft capitalism (Thrift, 2005), cultural cognitive capitalism (Scott, 2017), the third industrial revolution (Rifkin, 2013), or even surveillance capitalism as a form of rogue capitalism (Zuboff, 2019) or the like. The origins and development of the knowledge-based economy can be examined through historically contingent academic theories and policy ideas. Indeed, different readings of the "knowledge economy" demonstrate that since the Second World War scholars from different disciplines and perspectives have sought to understand and conceptualize certain structurally transformative tendencies in the capitalist economy. They have thus sought to make sense of the shift towards a sort of post-industrial economy that focuses on the production and consumption of knowledge and "symbolic goods" as a higher-order economic activity that ultimately affects and re-works the entire economy and society (Peters, 2010). Thus, Peter Drucker's (1969) notion of a knowledge worker (already in 1959), including the founding of the entire scholarly field of knowledge management, as well as the sociological work of Daniel Bell (1973) that emphasized the relative importance of theoretical knowledge in post-industrialism, all disclose how changes have been underway on the economy-society interface over the past decades.

Since 1990s, the knowledge-based economy has been particularly associated with issues such as learning, creativity, and entrepreneurship. Many of the concepts that were originally tailored to explain and understand the emergence of such

economy have become central terms that have been tirelessly used by policy-makers within the OECD-world in particular. To illustrate, the World Bank (1991, 33–35) concluded revealing in the early 1990s that it is "intangible investment in knowledge accumulation" which is decisive rather than physical capital investment as was at one time believed. This and other formulations of the time were premised on the work of Paul Romer (1986) and other "new growth theorists" who suggested that innovation, learning, human capital, entrepreneurship and technology are fundamental for "endogenous growth". Similarly, knowledge and related investment in human capital were in these theories treated as key assets for growth and profits, assets that were not subject to finite restrictions. It may not come as a revelation, therefore, that the strategic political role of universities, for instance, has fundamentally increased during the consolidation of the knowledge-based economy as what Bob Jessop (2005) calls both a hegemonic meta-object of governance or meta-governance that can be understood as responses to the crisis of Atlantic Fordism as a regime of capital accumulation. The power of the knowledge-based economy as a form of meta-governance partly derives from the fact that a number of actors are enrolled behind it. Importantly, as Jessop reminds us, the knowledge-based economy as a successful economic governance also depends on the co-presence of both economic and extra-economic or noneconomic forms: as a set of economic operations, the knowledge-based economy is constituted by the extra-economic systems such as science, education, law, social institutions, traditions, etc (see also Bachmann & Moisio, 2022) .

In this paper, I use the concept of the knowledge-based economy in particular to refer to the contemporary actually existing economy that highlights knowledge, innovations, learning, higher education, research and development, technology, and entrepreneurialism as crucial components in the creation and extraction of value and in the world of political competition between states, cities and regions.

The materiality of the knowledge-based economy became salient in some of the advanced capitalist states in the latter half of the 1980s. This was the time when the main source of wealth in market economies was gradually switching from natural assets (most notably land and relatively low-skill labor), through tangible created assets (most notably buildings, machinery and equipment), to intangible created assets (Dunning, 2000, 8). In other words, in the knowledge-based economy, the creation and extraction of value is fundamentally based on "knowledge" and "information", both of which might be embodied in human beings, in organizations, or in different kinds of physical assets.

The knowledge-based economy signals the increasing relative significance of knowledge and innovation in the generation of "national wealth". In the knowledge-based economy, knowledge creation becomes as an essential source of competitive advantage to many sectors of the economy, with a special emphasis on R&D, higher education and various knowledge-intensive industries ranging from the ICT to various cultural industries and the media (Peters, 2009, 4). According to Sum and Jessop, the knowledge-based economy can be conceptualized as

> An actually existing economy whereby the primary aspect of capital is 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 across the private, public and 'third' sectors. In a true KBE, it is suggested, knowledge is applied reflexively to the production of knowledge and most sectors tend to become more knowledge-intensive. (Sum & Jessop, 2013, 284)

As an actually existing economy, the knowledge-based economy brings together capitalist production, as well as distribution, exchange and consumption of commodities, as well as the extra-economic factors such as education, values, political subjectivity, norms, beliefs, and political institutions. As such, the knowledge-based economy can be understood as a set of economic, societal and political processes.

2.3 On the Concept of Knowledge-Based Economization

Knowledge-based economization can be understood as proceeding through a set of strategic initiatives which include the tempting promise of limitless growth: an antidote to the various material and environmental limits to economic growth under Atlantic Fordism which had become obvious already in the 1980s. In this capacity, the discourses of knowledge-based economization are firmly bound to the ways in which capitalism has been represented since the 1990s as the only societal system capable of providing infinite growth and profit (Moisio, 2018a).

The concept of knowledge-based economization refers to the constant social and political production of the knowledge-based economy as an actually existing economy in all kinds of economic imaginaries, and in economic as well as extra-economic practices. By using the concept of knowledge-based economization, I hence underline that all capitalist accumulation regimes can be understood as instituted processes whereby the state and different extra-economic practices ranging from education and science to law and collective identities play a central role (see Polanyi, 1982). This is one of the reasons why universities (as spaces of science, learning and innovation), for instance, have figured prominently within the imaginaries of the knowledge-based economy during the past three decades.

As the discussion above hints, the concept of knowledge-based economization shifts attention from the narrow understanding of economy towards the processes of economization (see, in particular Çalişkan & Callon, 2009). In these processes, a number of social issues are constantly translated into economic issues and articulated as if they were "pure" economic matters. This kind of economization also happens conversely when economy-related matters are articulated and enacted upon as if they were societal, political and collective "we" issues. This latter aspect has been highly salient in the context of the economic promise that has been associated with the role of higher education in societal development since the 1990s, in particular. In knowledge-based economization, both research and higher education are

articulated and understood as fields of societal action that secure the economic success of political communities and the welfare of their inhabitants.

"Knowledge" has four different meanings in the context of knowledge-based economization (cf. Moisio, 2018a). First, it refers to the role of ideas and related innovations in the creation and extraction of economic value. Second, the attempts to commodify knowledge are coupled with knowledge-production by experts, academics, consultant companies, and organization such as the *World Economic Forum* on the knowledge-intensive form of capitalism itself. This knowledge-production indeed plays a crucial constitutive and performative role in knowledge-based economization. Third, knowledge refers to the ceaseless gathering of data on the development and performance of political communities as knowledge-based economies. This data is constantly used in policy-making and territorial governance of political communities. Fourth, knowledge in the context of knowledge-based economization refers to the pervasive datafication of societies. At the age of digitalization, data emerges as a form of valuable pool of information regarding the behavior, needs and desires of human beings. Information thus can be collected, storaged, processed, commodified and, finally, realized as profit in money form. The processed data can be utilized in different ways ranging from political surveillance to marketing.

In sum, the concept of knowledge-based economization refers both to the material processes of knowledge-intensive capitalism, and to the processes whereby this form of capitalism is constructed discursively through economizing imageries and related objectifying social practices. These latter practices refer to all kinds of league tables and indices that measure the "competitiveness" of, for instance, universities, cities and states. In so doing indices reify states, cities, regions and universities as "real" units of global competition.

2.4 Geopolitics of Knowledge-Based Economization

Typically, geopolitics refers to the state-orchestrated politics of "hard" territorial force and spheres of influence. More often than not, geopolitics is still understood narrowly to denote drawing state borders, building nations as definite territories, constructing domestic social order through spatial techniques of coercion and consent, controlling territorial spaces through new military technologies within and beyond a given state, as well as geographical and historical justifications of territorial claims. The concept of geopolitics is therefore almost without exception associated with the idea of the purportedly territorially consolidated twentieth-century European state and the wider system of military strategy. This narrow understanding stems from the key political characteristics of the "industrial era" of the nineteenth and twentieth century: command of territory and natural resources were pivotal dimensions of interstate rivalry and fundamental constituents of national wealth and status. The contemporary geopolitical condition is characterized by two processes and related imaginaries. The first is about the abovementioned issues of "hard" territorial power as states vie for power: occupy land areas and control "sea

territories", for instance. Territory, strategy and associated national identity politics have hence not ceased to be important factors in the contemporary historical context. One possible way to approach such geopolitical territorialization in the context of knowledge-based economization is to examine the ongoing inter-state competition between powerful states over particular "territories of technology" or technological influence. During the past few years, China and the US in particular have treated big tech corporations as if these firms represented national interests of their "host states". In so doing these states have sought to divide the world into spheres of technological influence (Sellar et al., 2020). The US, for instance, has attempted to restrict companies such as Huawei to operate in different geographical contexts beyond China. These restrictions tailored to contain the purported capacity of the Chinese government to abuse the data that Huawei collects and processes through its digital platforms.

The geopolitics of knowledge-based economization pertains in particular to the ways in which the relational world of contemporary capitalism – flows of money, talent and ideas – is constantly re-territorialized in political action through states, cities and regions. It is for this reason that states, cities and regions have become units of competition in a sort of global attraction game which highlights issues such as connectivity, access to global networks and concentration of particular assets that are valuable in "global competition". In knowledge-based economization, a key political issue for states, cities and regions is how to manage global mobility, and hence how to bolt these political communities to the global value chains. Not surprisingly, the processes of knowledge-based economization effectively restructures states spatially.

Particular geopolitical imaginaries regarding global competition play a central role in the processes of knowledge-based economization. As Gramsci (1971) succinctly points out, the consolidation of regimes of capital accumulation depends on the exercise of intellectual, political and moral leadership. This leadership is needed in order to translate the new accumulation regime into entire society. In other words, mere technological advances and other narrowly economic issues cannot alone secure the consolidation and maintenance of the knowledge-based economy as a regime of capital accumulation. Jessop (2005) underscores how imaginaries with their constitutive and performative role occupy a key role in this translation process.

The knowledge-based economy as a regime of accumulation is discursively produced in expert knowledge and geopolitical imaginaries regarding global competition and competitiveness. These imaginaries divide the world and states into "zones" in terms of their potential in value creation and extraction in the knowledge-based economy. These imaginaries hence inescapably re-structure the state as an economic territory.

One peculiar geopolitical aspect of knowledge-based economization is that some of its constitutive imaginaries highlight the quintessential role of the nation-state in global competition. Accordingly, national political institutions fundamentally affect the relative rates of technological change and, thus, of economic growth and success of nation-states. This idea was powerfully articulated by Harvard business

management scholar Michael Porter in the early 1990s in his conceptualization of the "competitive advantage of nations":

> Competitive advantage is created and sustained through a highly localised process. Differences in national economic structures, values, cultures, institutions and histories contribute profoundly to competitive success. The role of the home nation seems to be as strong or stronger than ever. While globalisation of competition might appear to make the nation less important, instead it seems to make it more so. With fewer impediments to trade to shelter uncompetitive domestic firms and industries, the home nation takes on growing significance because it is the source of the skills and technology that underpin competitive advantage. (Porter, 1990, 19)

It is important to recognize the discursive power of such a geopolitical imaginary regarding the nature of inter-state competition. It is equally important to recognize the central role of theories and related geopolitical imaginaries which highlight how post-Fordism increases rather than diminishes the role of places and regions in the production process at the age of "flexible specialization". To illustrate, at around the same time when Porter was formulating his theory on the competitive advantage of nations, notable economic geographers (e.g. Storper & Harrison, 1991; Scott, 1991) highlighted the importance of sub-state "regions" for network developments and economic developments in post-Fordism. Accordingly, local infrastructures, traditions, and externalities, especially in skills and local labour markets, specialised services and not least, mutual trust and relationships between organizations and individuals, contribute significantly to flourishing of "regions" and locales as new economic territories.

Since 1990s, the processes of knowledge-based economization have premised on "hub and flow imaginaries" concerned with the state and world. These highlight the role of particular sites, places and collective subjects in the creation of value, and in the controlling of global flows of money and talent. If a creative entrepreneur (this figure can take many forms) has been an ideal economic subject in knowledge-based economization, clusters, creative cities, start-up cities, smart cities, learning regions, innovation centres, happy cities, innovation ecosystems, to name but a few, have become concrete articulations of the spatial organization of the knowledge-based economy.

The geopolitical location game in knowledge-based economization is of course structured by the essential dynamics of global capitalism. David Harvey's (1985, reprinted in Harvey, 2001) notes on the geopolitics of capitalism are important in this context. In Harvey's theory, geopolitics emanates from the internal political-economic dynamism of the capitalist mode of production in general and from the circulation of capital in particular. The capitalist mode of production is always inescapably spatially constituted, and requires certain social (such as education) and physical (such as buildings and laboratories) infrastructures to support the circulation of capital.

The inter-spatial competition in knowledge-based economization takes an urban form, and revolves around the attractiveness of urban social and physical infrastructures in particular. The geopolitical paradox inherent in knowledge-based economization is that nationally and locally anchored spatial formations are needed to

actually facilitate the geographical mobility of capital, but this mobility results only in a chronic instability of existing national and local configurations. This is why the geopolitics of knowledge-based economization emanates from the very tension within the capitalist circulation process in space: the tension within the geography of accumulation between fixity and motion. In the process of knowledge-based economization, states and cities seek to fix in place the restless flows of "knowledge-intensive" capital that searches for optimal locations for the creation and extraction of value. In knowledge-based economization, the tension between the territorial and the capitalist logic of power is a pervasive one: "capitalism perpetually strives, therefore, to create social and physical landscape in its own image and requisite to its own needs at a particular point in time, only just as certainly to undermine, disrupt and even destroy that landscape at a later point in time" (Harvey, 2001, 333).

In order to respond to the needs of the restless flows of capital that embody the knowledge-based economy, the state operates increasingly selectively with regard to its territory (also Jones, 1997). All kinds of urban spaces of innovations are politically construed economic territories that both local and national state authorities hope will serve as territorial platforms or "spatial exceptions" (Ong, 2006) through which both economic and political success can be achieved. The imaginaries that constitute and sustain knowledge-based economization are highly city-centered and growth oriented, and they often present cities as "smart" solutions to economic and political crises.

In political debates in advanced capitalist states, as well in mainstream scholarly work in urban economics and in related fields, as well as in the work of all kinds of consultant companies and guru scholars, issues such as innovation, productivity, internationalization, growth and creativity are increasingly brought together and associated with large cities and their urban fabric (Jonas & Moisio, 2018). As a result, the production of states as territories of wealth has gradually become more urban in nature. The imperative of urbanization hence manifests itself increasingly in the sometimes peculiar alliances between actors who articulate urban economic growth in terms of common national interest (Moisio & Rossi, 2020). One may indeed argue that the transformation of cities towards increasing entrepreneurialization, and the process of producing the state as an entrepreneurial social organization have been important geopolitical aspects of knowledge-based economization (Moisio, 2019). As part of this geopolitical process, large cities, in particular, increasingly embody national competitiveness and attractiveness. Crouch and Le Galès (2012, 406) argue aptly how

> …states have shifted resources to invest massively in their capital cities and in urban infrastructures, from information technology to research, financial platforms to transport. Nothing can stop them developing national champion cities or regions, as competition policy is directed solely against favouring firms and industries, though in practice favoured locations are often associated with specific industries, even specific companies, and these can benefit from advantages being given by public policy to the geographical space. Such strategies constitute particularly literal examples of economic patriotism. Patriotism is associated with the defence and promotion of nations, lands, territories; in the strategies being discussed here, economic patriotism takes the form of advancing the interests of specific parts of the national territory.

The geopolitics of knowledge-based economization also refers to particular extra-economic micro-spaces that play a significant role in the production and maintenance of knowledge-intensive capitalism. It is for this reason why universities, for instance, have become fundamental geopolitical sites in knowledge-based economization and in related "global" inter-spatial competition. Harvey (1978, 121) explains how a consolidation of a regime of capital accumulation involves bringing the behaviors of people including economic and political agents "into some kind of configuration that will keep the regime of accumulation functioning". Knowledge-based economization has been characterized by efforts to generate new "creative" capitalist collective subjects also in the spaces of higher education. The crafting of these geopolitical subjects of knowledge-intensive capitalism in educational practices merits more attention in research. Indeed, we still know relatively little on the ways in which the crafting of these "creative" subjects of knowledge-intensive capitalism in the spaces of higher education brings together the relational-economizing spatial imaginaries and the territorial strategies of states and cities, and also how this crafting of political subjectivity actually re-works the capacities and orientations of these new geopolitical subjects.

The crafting of geopolitical subjects of the knowledge-based economy discloses that knowledge-intensive capitalism not only needs people with certain skills, but it also requires "communicative, cooperative, and affective labor" (Hardt & Negri, 2000: xiii), and thus, particular subjectivities. The concept of the geopolitical subject therefore refers to an organized set of human figures, who are, from the perspective of political power, equipped with particular ideal skills, behaviors, orientations and "spatial mindsets" which can be harnessed in the production of territories of wealth and competition at the age of global competition. As such, a geopolitical analysis of knowledge-based economization seeks to understand the ways in which such economization involves manipulating and guiding bodies and lives spatially in the age of a conceived war over talent (Moisio, 2018a).

2.5 Concluding Remarks

In spatial terms, the process of knowledge-based economization has shifted qualitatively since the early 1990s. It first emerged in the form of late-Keynesian technopolization, and was produced in the strategies of the "entrepreneurial state". Since the late 1990s, knowledge-based economization has manifested itself in all sorts of imaginaries and practices that are predicated on the idea of "smartness". After the global recession in 2008, knowledge-based economization has again proceeded through new forms. During the past few years, it has become increasingly salient in the constitutive imaginaries of the so-called start-up economy. In this context, the advanced capitalist societies are witnessing interesting expansion in the processes of entrepreneurialization and urbanization of the nation-state (Moisio, 2018b).

The era of knowledge-intensive capitalism has been marked by remarkable optimism that all kinds of technology-based economic innovations would pave way to

a new brave world. According to the utopian technology-centered narratives in particular, this world would be characterized by enormous economic profits and increasing cooperation and interaction between happy individuals and communities, as well as by a culture of rational reasoning, emancipation and equality, as well as by well-functioning democracy.

It is the role of critical social science to examine and challenge the largely positive image of the knowledge-based economy. As Joe Painter (in Sellar et al., 2020) argues, the knowledge-based economy involves a number of regressive elements ranging from its impact on the environment to gender-related issues. Importantly, some of the highly problematic elements of the knowledge-based economy stem from the state-mediated operations of capital and the related inequality. Indeed, these state-mediated operations evidently entail significant "spatial sortings" that divide places and regions into winners and losers, and are hence very exclusionary.

The processes of knowledge-based economization have the capacity to place certain places and segments of population at the epicenter of development and capital accumulation and at the same time marginalize places and particular segments of the populace. It may not be a terrible exaggeration to argue that some of the spatial contradictions of the knowledge-based economy as a regime of capital accumulation are becoming increasingly evident. In its dominant "progressive neoliberal" form, the process of knowledge-based economization produces tremendous amounts of wealth for some segments of the populace and some places while placing others on the social and geographical margins. To illustrate, one characteristics of knowledge-based economization has been the concurrent rise of all kinds of urban innovation complexes (Zukin, 2020) in major urban centers and the marginalization of lesser urban agglomerations and rural areas. Policies that support the formation of start-up ecosystems and other constituents of innovation complexes effectively produce the strategic urbanization of the nation-state, and concrete manifestations of spatial sortings that characterize the late knowledge-intensive capitalism. It is a commonplace that the growth potentials are today located in the urban hubs of the knowledge-based economy, whereas areas outside the hubs are experiencing relative decline due to "structural change" in the economy. Public and private investments are at the core of this structural process that peripherizes places in knowledge-intensive capitalism, while it centralizes other localities. At least three important research topics stem from this aspect of knowledge-based economization:

1. Knowledge-intensive capitalism is fundamentally constituted in and through different kinds of spatial sortings. These sortings both include and exclude places and actors in such an economy. A critical examination of spatial sortings is important given that in public policy-making the knowledge-based economy is often represented as the result of a self-propulsive mechanism of endogenous development when compared with the purportedly "dirty" era of manufacturing, resource extraction, and patriarchal Fordist-Keynesian statehood.
2. The central organizing logic of the post-Keynesian world is not the valuing of people as workers and consumers, but the expulsion of people and the destruc-

tion of traditional capitalisms to feed the needs of high finance (Sassen, 2010) and high technology. One of the central organizing logics of the contemporary knowledge-based economization is the spatial sorting of places and people in relation to their purported capacity to contribute to the development of such economy beyond mere consumption and use of technologies invented elsewhere.

3. The state has played a key role in processes that have resulted in the spatial split between "favoured" and "less-favoured" places and regions under knowledge-driven capitalism. Yet, this remains an understudied topic. The extent to which the spatial sortings of late knowledge-intensive capitalism are mediated by the state remains an important empirical question.

Already more than two decades ago, rightwing conservatives James Dale Davidson and William Rees-Mogg (1999) argued that the change from "industrial societies" to "information societies" produces a city-centred and competition-centred world characterized by a deep divide between winners and losers. In their view, the winners would be transnational "cognitive elites", knowledge workers with high incomes and increasingly trans-local relations and lifestyles. The losers would be people who have difficulties coping with the new transnational world. Indeed, this latter segment of populace has been constantly expanding during the past decade – both within state territories and within major urban agglomerations. It consists of new service class that operates within the digitalized platform economy, the educated precariat whose skills are only in temporary use (at best), and the lower social classes whose welfare gains are under constant threat. Indeed, Dale Davidson and Rees-Mogg (1999) warned that the deepening inequalities between the winners and losers of the information age would end up turning those on the bottom of the pyramid towards highly revanchist nationalist politics. Interestingly, this is exactly what has happened in Europe and elsewhere over the past years.

It is actually a very important geopolitical question whether we are witnessing, as Nancy Fraser (2019) suggests, a gradual evaporation of progressive neoliberalism. Most obviously, this form of neoliberalism has been a major political force behind knowledge-based economization since the 1990s: a force that has manifested itself powerfully as a particular type of "Silicon Valley worldview" that highlights the borderless world. Even though this worldview is certainly not a monolith, it is highly possible that we are currently witnessing the rise of alternative ideological-political formations and associated geopolitical worldviews that challenge the hub and flow imaginaries upon which knowledge-based economization has been premised over the past three decades.

Finally, critical scholars should not only scrutinize the spatial organization of the knowledge-based economy, but also examine the corporeal representations and experiences of knowledge workers working and living within and under the imperatives of such an economic form. This would also require new kinds of analyses on the university as a geopolitical site under knowledge-based economization. The latter would require the use of all kinds of innovative ethnographic and other methods. It is equally important to focus on the everyday statehood, and to analyze the many ways in which state-orchestrated policies and wider regulatory frameworks seek to

control and manipulate citizens and human capital in order to develop particular competitive forms of life within a given state territory (Moisio et al., 2020). These and many others are important topics given that knowledge-based economization keeps mutating and takes new forms in the future.

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Chapter 3
Imagining and Transforming Higher Education. Knowledge Production in the New Geopolitics of Knowledge

Marcelo Parreira do Amaral

3.1 Introduction

The idea that we live in global knowledge societies and knowledge-based economies or that present-day productive systems constitute an industry 4.0 have gained currency as descriptions of contemporary society that are said to bear direct and indirect consequences for political, economic, and social orders. In this context, higher education – in terms of its missions of innovation, research and education – has been placed center stage in contemporary discussions about the future of modern societies. In globalized discourses on the theme, *innovation* is enthusiastically embraced as the panacea for all sorts of societal and economic issues of our times; *research* is equally deemed to play a decisive role in solving current problems and in heralding a bright future with more wealth and more welfare for all citizens; *education* is conferred the task to producing individuals equipped with both skills and competences considered key to innovation but also displaying the attitudes and dispositions that will secure continuous innovation and economic growth.

High-level policy interest parallels this enthusiasm placing knowledge and knowledge generation activities centerpiece in imaginations of the future, for instance, under the EU's strategies of creating the most competitive global knowledge-economy and becoming an Innovation Union, in national innovation policies of competing nation-states, or in the business strategies of (new) market participants. In this context, higher education institutions as main spaces of

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knowledge production have become an *idée fixe*, a constant *topos* in the imaginations of knowledge-intensive capitalism and of how they are to contribute to innovation and economic growth. Higher education (HE) is deemed central to the realization of this vision and invoked as the prime *locus* of production both 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.

The chapter argues that higher education, in this setting, is part of a *New geopolitics of knowledge* that refers to the integration of higher education in the imaginations and calculations of different actors aiming at asserting and/or improving their positions in the global knowledge-based economy. This integration, the chapter argues, not only prompts a (re-)imagination of the future of HE in terms of serving knowledge-intensive capitalism, but also reshapes and transforms HE missions and infrastructures. The chapter starts by, *first*, introducing a geopolitical perspective that, it is argued, can help us understand and deliberate on the implications of current developments shaping higher education. Here the theme of geopolitics is unfolded and two different strands of the debate about a (new) geopolitics of knowledge discussed that offer a conceptual perspective for assessing the relevance and implications of current developments. *Second*, in taking a global perspective, the chapter presents two distinct sets of contexts that shape contemporary transformations in higher education. To start with, the integration of higher education in global regionalism projects is examined in terms of the relevance of these policy contexts as a background for developments in the field; in what follows, we look into the emerging Global Education Industry (GEI) that also serves as an influential shaper of higher education transformations. In a *third* section, the chapter discusses examples of how current transformations in higher education can be better grasped by adopting a geopolitical lens. The section considers the creation of international education hubs by states aspiring to improve their position in global economic circuits; and it discusses the placelessness of the (imagined) future of higher education by examining a current project that aims at disrupting the future of higher education: the Minerva Project.

The following section introduces and discusses geopolitics as a lens to examine higher education transformations, before two sets of contexts transforming higher education are discussed in more detail.

3.2 A *New* Geopolitics of Knowledge?

Geopolitics is defined as representing "the struggle over hegemony in places and spaces." (Petersen & Wehrmann, 2015: no page) Geopolitics refers to the influence of factors such as (physical, human) geography, economics and demography/population on politics, and in particular the foreign policies, of a state (OED, 2020). It focuses both on political power and geographic space. The term has a long and controversial history due to its association with colonial and imperial ideologies.

The orthodox view of geopolitics served as justification for the aggressive Nazi-German expansionism that led to the great catastrophe of the Second World War, thus almost disappearing from the political vocabularies of the post-war era, until it was repopularized by US policy advisors and in particular by Samuel P. Huntington's controversial book ‚Clash of Civilizations' (1996).

In its classical usage in international political relations, geopolitics refers to strategic aims of the state, focusing primarily on territorial expansion and control over natural resources and populations in pursuing state's goals. Only more recently have scholars expanded it to include political and cultural production and take into consideration actors beyond the state (Petersen & Wehrmann, 2015; see also Kuus, 2017).

Drawing from recent intellectual developments in human geography and political geography, scholars working from the perspective of critical geopolitics (see Kuus, 2017) examine the geographical assumptions and discursive constructions that shape world politics (Agnew, 2003, see also 1999). They argue that "spatiality is not confined to territoriality" and that we need to pay attention to the politics of spatializing "international politics and represent[ing] it as a 'world' characterized by particular types of places" (Kuus, 2017: 2). In its attempt to illuminate and explain these practices, critical geopolitics expanded the classical notion of geopolitics to encompass efforts by „dominant states and their ruling social strata to master space – to control territories and/or the interactional flows through which modern terrestrial spaces are produced." (Agnew and Corbridge, quoted in Moisio, 2018: 3) This conceptualization adds relational and discursive-semiotic aspects to the territorial and is concerned with how geopolitical order is constructed and stabilized not only by means of territorial control, but also through discourses and meaning-making practices. It also problematizes statist assumptions by incorporating actors other than states in the study of geopolitical phenomena. In short, geopolitics then may be taken to denote territorial, relational, and discursive aspects of political imaginaries, in which the world has become a global network of cities, regions, hubs or (free) economic zones that drive knowledge-intensive capitalist accumulation in the twenty-first century (see: Moisio, 2018).

Indeed, while current public discourse and policy rhetoric refers to geopolitics as concerned less with territorial competition, national interests and security – even though these concerns still clearly underlie strategic policy planning. To be sure, while inter-state competition over territories and ‚spheres of influence' are constantly downplayed and relegated to a past before the age of globalization and neoliberal politics, classical notions of geopolitics still can be found in contemporary political debates – for instance, after the Russian annexation of Crimea, politicians and media interpreted this as an act of old-fashioned geopolitical strategy belonging to the twentieth century (see: Moisio, 2018). Recent developments such as the Brexit or the trade wars between the USA and China may also illustrate the geopolitics of power. While political and scholarly debates alike oftentimes characterize geopolitics in terms of the movement from an old-fashioned territorial power play condition of the industrial society, to one of relational and networked "'hub and flow imaginaries'" (Moisio, 2018: 7) of the knowledge society, this chapter argues that these two notions are both co-constitutive of current developments and that

power play politics is still at work in these developments. One example of this may be seen in the recently signed Regional Comprehensive Economic Partnership (RCEP) among the ten members of the Association of Southeast Asian Nations (ASEAN), plus China, Japan, South Korea, Australia and New Zealand. While discourses of the global connectivity of open, unhindered flows in international free-trade figure prominently in justifications of the agreement, both China's political strategy to trump the alternative Trans-Pacific Partnership (TPP, which excluded China) and the global economic regionalism policies of the signatory states were key to RCEP's success (see also ASEAN, 2020).

A second strand of the discussion about a geopolitics of knowledge dates from the 1990s and early 2000s and developed amidst critical and postcolonial debates of the role of knowledge in world order (Dussel, 1993; Mignolo, 2002, 2003). Geopolitics of knowledge refers here both to the role of philosophical projects and epistemological paradigms in stabilizing a (Western, imperial) social and political order of the world – hinting thus at the role of science/knowledge in (orthodox) geopolitical projects. More recently, the debate has been further elaborated to include conceptual (imaginations) and practical (designs) of social liberation and construction of a pluriverse (Escobar, 2018; Reiter, 2019).

Starting in the early-1990s several scholars referred to 'geopolitics of knowledge' to criticize what some characterized as a 'Eurocentric critique of modernity'. For instance, Enrique Dussel (1993) was one of the most voiced critics of postmodernity. For him a postmodern critique of modernity was necessary and important, but not enough. In his book *Postmodernidad y Transmodernidad* (1999) he developed a powerful critique of what he and later other scholars termed 'the geopolitics of knowledge'. They saw it as "organized around the diversification, through history, of the colonial and the imperial differences." (Mignolo, 2002: 59) Colonial and imperial difference denotes the absolute difference between the colonizer and the colonized. For these scholars, colonization was not only related to the planetary expansion of capitalism, as 'Eurocentric critics' rightfully pointed out, but was seen in essence also closely and complementarily connected to a specific epistemology as well as ways of knowing and being that sustained and stabilized a spatial articulation of power (in other words, coloniality), which in turn, silenced alternative epistemologies, ways of knowing and being. According to Walter Mignolo (2002: 59), the planetary expansion of Western capitalism thus also implied the expansion of Western epistemology (ibid.), and eventually of the social sciences; for this reason, this group of scholars called for the decolonization of the social sciences – rather than the 'opening' of the social sciences as the famous commission on the 'Restructuring of the Social Sciences' funded by the Calouste Gulbenkian Foundation advocated (Gulbenkian Commission, 1996). As Mignolo argued, an opening of the social sciences would simply maintain them as a planetary academic enterprise (2002: 64). In short, this strand of the debate focused on the role of knowledge – in particular, epistemologies that legitimated specific ways of knowing and being that privileged some groups over others and helped stabilize a (Western) spatial order. It is much in line with more recent discussions about 'Southern' or 'Mosaic' epistemologies (Connell, 2007, 2019) or arguments put forward for the

construction of a pluriverse (Escobar, 2018; Reiter, 2019) that aim at better balancing different (non-European) ontologies, epistemologies and methodologies, and thus countering hegemonial knowledge and spatial orders.

Against the background of the discussion above, the chapter argues that a *new* geopolitics of knowledge has emerged which entails the integration of knowledge production in HE in the strategic positioning of states, regions, and companies in global economic competitiveness circuits. In short, innovation, research capacity and education thus are reckoned key to succeeding in global economic competition. Higher education institutions have become key in the imaginations of knowledge-intensive capitalism and of how they are to contribute to innovation and economic growth, thus securing a safe place in the global economy. Higher education is invoked as the main *locus* of production both 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 (see also Moisio & Kangas, 2016). In geopolitical terms, education and research are currently seen as *assets* that play a central role as generating both value and comparative advantages in the global competition, competitiveness and transnational value chains (see: Moisio, 2018). It is worth noting that in this context, knowledge refers mainly to three things: (a) "to the role of ideas and related innovations in generating value in the production chain"; (b) to "the attempts to commodify knowledge […]" including the processes of "knowledge-production by experts, professionals, academics and institutional actors" and (c) to "refer […] to the ceaseless gathering of data on the development and performance of political communities as knowledge-based economies." (Moisio, 2018: 9) From the perspective of the second strand of the debate, the current transformations preserve and prolong the hegemony of a Western epistemology that is well aligned with knowledge-intensive capitalism; this has important consequences not only in geopolitical terms, but also impacts the internal logics of knowledge production: in that it favors specific epistemologies and methodologies; in that it gives preeminence to specific disciplinary fields; and not least in that it impacts the infrastructures for knowledge production and dissemination, or in other words, research and teaching in higher education.

In summing up, while in older debates, geopolitics of knowledge refers primarily to epistemological paradigms and philosophical projects of social/political hegemony, the contemporary discussions surrounding the 'geopolitics of knowledge-based economy' is conspicuously absorbed in discourses, governance technologies, calculative practices and subject formation that constitute a neoliberal assemblage called knowledge society or knowledge-based economy.

In referring to a *New Geopolitics of Knowledge* this chapter calls attention to the need to consider the politics of spatializing international politics of higher education, including the material and discursive practices deployed to do so. Here, the geopolitical perspective offers a prolific line of thought to examine how the integration of knowledge production and higher education in strategic imaginations and calculations of a host of actors is taking place currently. From this vantage point, we can scrutinize the implications for the insertion of HE in politico-economic projects and deliberate on the implications for the sector in general, and for academic

activities and scholarly work in particular. In terms of the latter, it seems crucial to take advantage of the insights from postcolonial criticism of the role of (social) science in stabilizing a colonial world order and question the impact of the changing knowledge regime (see: Parreira do Amaral, 2019). Moreover, beyond providing conceptual tools for a sound critique of hegemonic projects and related neoliberal assemblages, more recent work on the topic, for instance Arturo Escobar's ideas on 'Designs for the Pluriverse' invites us to deliberating on how pluriversal intellectual projects also offer useful ways to question and counter hegemonic imaginations, thus opening news avenues for thinking of possible alternatives. Indeed, it seems crucial to examine current developments and divest them of their pervasive 'there-is-no-alternative' rhetoric. The following section briefly discusses two contexts in which transforming higher education is seen as urgent and inevitable.

3.3 Transforming Higher Education: Redemption and Survival

This section discusses two sets of examples in which higher education has become central in political and economic imaginations of the future. *First*, a brief discussion of higher education and global regionalisms illustrates HE's embedding in politico-economic imaginations and strategies in Europe. *Second*, what has been coined a Global Education Industry (GEI) provides a fertile soil for economic rationales and initiatives to transform higher education worldwide. Seen together these two provide policy and ideational contexts for those interested in transforming HE.

Global Regionalisms refer to wide-ranging projects of regional political and economic integration of single states in different world blocs. Although regions may be viewed as phenomena at micro- or macro-levels, most conceptual work around regionalism centered upon world regions, emphasizing spatial-geographical relations and mutual interdependence among nation-states. With the intensification of globalization since the 1980s, the theme has been discussed in terms of contemporary changing world order with almost all 193 states taking part in one or the other regional project – for instance, the European Union (EU), the North American Free Trade Agreement (NAFTA), the Association of Southeast Asian Nations (ASEAN), the African Union (AU), the Caribbean Community (CARICOM), the Southern African Development Community (SADC), the Economic Community of West African States (ECOWAS), the Southern Common Market (Mercosur) or the Union of South American Nations (UNASUR).

Regionalism aims at creating – maintaining or modifying – the order of a world region by means of establishing a formal institution-building project or policy. It is stimulated by specific ideas, values and political, economic and social objectives as well as strategies that enrol and engage participant states in a common set of ideas and political and/or economic project. Briefly, while research on regionalism until

not very long ago mostly concentrated on economic and political integration,[1] more recent scholarship pays heed to geopolitical, cultural, and functional aspects and emphasize the multidimensional nature of the phenomena, including inter-regionalism as a pattern of interaction between world regional projects (cf. Söderbaum, 2016). Education, in particular, higher education, has only more recently become an object of study in global regionalism.

Scholarly work in the field of education drawing on literature on regionalism has at first focused on studying the impact of various regional organizations on education, mostly state-led organizations (see: Dale & Robertson, 2002). For instance, the argument was put forward that by exploring the different forms and purposes, the (hard or soft) dimensions of power, the (direct or indirect) nature of their effects, the processes and means of influence on the education system, as well as the scopes of international organizations it was possible to discern their varying social, political, and economic consequences for education. Robertson et al. (2016) have further developed this research perspective and promoted the development of a regionalism research strand, in particular, related to higher education. They pointed out to the constructedness of both the region(s) and of the higher education project(s) of international organizations such as the EU, MERCOSUR, ALBA, NAFTA or APEC by arguing:

> that each of these organizations operates in a geographical 'regional' space that is itself constructed (for instance the 'Asia Pacific' or Latin America), that such regions are the deliberate creation of national governments ceding some authority and sovereignty to the bodies orchestrating and mediating their development, and that these global regionalisms differed from each other. These differences were not only the result of the kind of emphases they placed on the form of economic relations, but also because political, cultural and historical dynamics mediate the nature of their institutional forms and other social relations. (Robertson et al., 2016: 1)

This reconceptualization of research from simply analyzing the impact of the work of international/supranational organizations upon education to examining the role of education projects in imagining and constructing the world region itself, shifted attention to the role of higher education in the discursive construction of global regionalism proper, to new forms of inter-regionalism that hinted at global competition, and to the implications and impact for higher education, a sector in which much activity can be identified during the 20 years (Robertson et al., 2016). In short, global regionalism provides the context in which higher education became a central pillar of regional geopolitical imaginations, but also the policy contexts in which these ideas become reality. Research on the topic allows us to examine, various – and competing – projects, processes and, most interestingly, the politics of

[1] See Haas (1958) for a founding text of the theme of regional integration from a functionalist perspective. In European Integration Studies, for instance, regionalism has been widely debated in terms of a new type of interstate cooperation that focused on integrative processes among interest groups, bureaucracies, and political parties. Regionalism meant here primarily a development that arose from endogenous forces as well as from "spillover" effects of economic integration that led to political unification (see also: Nye, 1968).

global regionalism projects in different continents (Robertson et al., 2016; Verger & Hermo, 2010; Jules, 2012, 2015; Tikly, 2017). Examples of examinations of regional projects in higher education are found, for instance, on four regional schemes in South America (Perrotta, 2016), on the Bolivarian Alliance for the People of Our America – People's Trade Agreement (Alba-TCP) (Muhr, 2010), or on inter-regional policies between Asia and Europe (Robertson, 2008).

Elsewhere I have discussed the role and impact of the European regionalist project on education research (see: Parreira do Amaral, 2019). As discussed, most policies pertaining science, education and training have been crafted during the past 20 years in the aftermath of the EU Councils resolution to become the most competitive knowledge-based economy in the world. Very briefly, it was argued, education and research have been embedded in 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 current Horizon 2020 Research Framework Programme of the European Union. While previous research frameworks included an own funding scheme for Social Sciences and Humanities (SSHs), the new program stipulated that SSH research would be seen as cross-cutting and be integrated fully into the specific priorities and objectives of the frameworks for research and innovation of the Union – until recently called 'societal challenges', now termed 'missions' in the new Horizon Europe program beginning 2021 (see: EC, 2020). 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 and technocratic interventions and instrumental solutions, but has also exacerbated hierarchical disciplinary divisions and created new tensions for SSH. This embedding of research into a framework oriented towards achieving geopolitical goals of the European Union affected not only its relationship to policy, but also has had important implications for epistemic governance as well as to the social epistemology of education (cf. Parreira do Amaral, 2019; see also: Normand, 2016).

A further context for current transformations of higher education relates to the emergence and expansion of what colleagues termed a *Global Education Industry* (GEI) in their attempting to understand the increasing (inter)penetration of education practice, provision, research and policy by economic rationales – economization, marketization, privatization, commodification, financialization (Verger et al., 2016; Parreira do Amaral et al., 2019; see also Thompson and Parreira do Amaral, 2019). Verger et al. (2016: 3) pointed out to a "new […] conception of education as a sector that is increasingly globalized and managed by private organizations." Scholarship on the GEI offered a re-reading (see: Simons et al., 2009) of the globalization of education which for them has taken on a different meaning, and pointed to a new facet of this development: education has become an economic enterprise unto itself, in which myriad actors produce, exchange, and consume educational goods and services, often on a for-profit basis (Verger et al., 2016: 4). As a context for those involved in imagining and re-imagining, reforming, and transforming (higher) education the GEI presents itself as "constituted by its own sets of

processes, systems of rules, and social forces, which interact in the production, offer and demand of educational services and goods." (ibid.)

Research on the GEI has so far focused on unveiling and understanding these processes and forces, theorizing thus the complexity, different manifestations and functionings (Verger et al., 2016); further, attempts have also been made to examine the rationales and logics of action as well as the modes of operation of the players, allowing for an assessment of the increasing impact that comes from these platforms, coalitions, and connections of very different actors (see: Parreira do Amaral & Thompson, 2019). In short, the GEI illustrates the rationales, interest and processes involved in constructing and fostering educational imaginaries of innovation and modernization that call for the substitution or disruption of education systems as we know them. The GEI may be seen as a central feature of the global dimension of education at present, consisting of mutual rationales, logics and modes of operation, but, more critically, of concepts built on prevailingly economic footings that have come to permeate education reform and restructuring across the globe.

Both the integration of higher education in global regionalisms and the expansion of a global education industry provided both theoretical, policy and ideational paradigms (see: Jessop, 2008) for current imaginations and constructions of higher education that potentially will lead to a substantial transformation of the field. In linking the previous discussion to the geopolitical perspective suggested for the examination of the transformations of higher education, the following section briefly presents and discusses two projects to reshape and disrupt higher education before a discussion of the implications of these developments for the field rounds out the chapter.

3.4 (Re-)Imagining and (Re-)constructing Higher Education

This section presents and discusses two distinct examples of how higher education has been inserted in the geopolitical imaginations of world regions/states and of business actors. The argument is that a geopolitical perspective provides productive and insightful lenses to better understand the (re)imagining and (re-)constructing higher education.

3.4.1 International Higher Education Hubs

The term International Education Hubs (IEHs) was coined amidst debates about novel forms of internationalization of higher education; indeed, IEHs are seen by some as "the latest development […] represent[ing] a wider and more strategic configuration of actors and activities, building on and including many of the recent developments in cross-border higher education (Knight, 2014a: 84). A predominant form of IEH, is a "country-level hub where a country is building and positioning

itself as an attractive and acknowledged center of education, training, knowledge production, and innovation activities." (Knight, 2014b: 5) From a geopolitical perspective, the latter may be taken to refer to different types of politico-economic projects attempting to more closely link higher education systems to economic demands for achieving structural competitiveness and increasing innovation for the knowledge-based economy (see also the chapter by Erfurth, in this volume).

Different models of IEHs have been identified in the literature – student, talent, or knowledge/innovation hubs (see: Knight, 2014c) – that characterize different approaches and strategies in shaping higher education. *Student hubs* refer to projects aiming to "widen access to higher education students, modernize and internationalize domestic HEIs, raise the profile of the country's higher education system, and generate revenue from the influx of foreign students" (Knight & Lee, 2014: 31). A *talent hub* purports to "expand the pool of skilled workers, contribute to a service and/or knowledge economy, increase economic competitiveness, and improve the quality and relevance of the labor force" (ibid.: 32). A *knowledge/innovation hub* "focuses on the production and application of new knowledge which has the potential for commercial use […]" and goes well beyond higher education to incorporate "research conducted by public and private partnerships and the corporate sector." (ibid.: 33f.) Several IEHs were created during the past years, located predominantly in East-Asia and the Middle-East, with the intention to become global preferred destinations for higher learning and research capacity, for instance: Hong Kong (Mok & Bodycott, 2014), United Arab Emirates (Halsey Fox & Al Shamisi, 2014; Erfurth, 2019), Singapore (Shidu et al., 2014; Erfurth, 2019).

Well beyond representing plain internationalization strategies, IEHs are better understood as geopolitical projects that signal a rearrangement of the relationships between state, economy, society, and higher education within selected territories (and beyond), linking higher education development and governance to global competition. Moreover, as Erfurth argued, IEHs exemplify the changing role of the state itself: a shift from state's monopoly role in sponsoring/providing education to an extension and strengthening of its regulation role as a power connector (see: Erfurth, 2019). Indeed, as part of a large-scale politico-economic projects, the organization of higher education becomes enmeshed in global interconnections of competition, cooperation, and conflict, with implications for higher education policy and governance. Attending to this link to global competition is important because the rationales for governing higher education is arguably shifting from social or educational categories (such as accessibility, affordability, equity, quality, mobility, open research, progress, and so forth) to economic categories such as revenue generation, the production of patentable, non-open research and knowledge as well as economic competitiveness.

Examining IEHs from a geopolitical perspective helps us understand how the different levels – local to global – are interrelated to each other and constitute global discursive spaces, but also spatialize (economic) goals of specific states/actors in terms of their participation and position in the global knowledge economy.

3.4.2 *Constructing the Intentional University: The Minerva Project*

The second example is a recent start-up from California that has proposed to disrupt higher education, creating a new institutional setup from scratch. The Minerva Project is a for-profit elite online university founded by businessman and former CEO of Snapfish Ben Nelson. The ambition has been high from the outset, namely to create „the most selective university program in American history" (Nelson, 2018: xviv) that would serve as a model for other institutions across the globe by being undisputed in excellence and providing a higher education experience that others cannot provide, not even Harvard, Cambridge, Oxford or other elite institutions. The Minerva Project was born in September 2010 in San Francisco, USA, and impresses with the speed with which it has developed into an accredited, operating higher education institution. Only little more than 4 years passed before venture funding of 25 million US$ was obtained from Benchmark Capital, or as Nelson puts it „the most respected investment firm of the time" in Silicon Valley (Nelson, 2018: xxi), the first employee hired, the first pilot group of students launched and the first official students in four-year study programs started. This swift pace of development is comprehensible once one considers the vast network of highly influential people involved in the venture – politicians, former university presidents, renowned academics, marketing and public relations experts and entrepreneurs (see: Nelson, 2018 for an overview).

Partnered with a member of The Claremont Colleges,[2] the Keck Graduate Institute, Minerva draws on shared, available institutional infrastructure to build an efficient and scalable business and operating model. It has no campus, no faculty buildings, no class- or lecture rooms, no amenities such as athletics or other sports facilities. All classes are conducted online via digital technology developed for the Project.

The Minerva Project departs from two basic ideas that offer justification for radically changing higher education. In the words of Chief Academic Officer, Stephen Kosslyn, and Minerva's CEO, Ben Nelson: First „we are facing a dire, cross-sector, global shortage of effective leaders […and second] education, and specifically higher education, must play a critical role in solving this problem" (Kosslyn & Nelson, 2018a: 5). The goal of the project is to reinvent higher education and „give students the cognitive tools they would need to succeed after they graduated" (ibid.: 1) as well as getting to leading positions in a changing, globalized world. Among these cognitive tools are „four core competencies: critical thinking, creative thinking, effective communication, and effective interactions" (ibid.: 9) around

[2] The Claremont Colleges is a consortium of highly selective private institutions founded by Congregationalists in Pomona, California in 1925 and was inspired by the Oxford University model. The consortium provides both students and the member institutions with administrative and operational services and coordination with the aim of cutting costs by offering shared services. See: https://services.claremont.edu/ [last Jan. 4, 2021].

which the curricula and programs are built based on a science of learning pedagogy and digital technology (see: Fost et al., 2018).

The Project identifies and proposes solutions to four common problems facing higher education: relevance, costs, efficiency, and access.

- *Relevance,* the common diagnosis is that despite completing their studies graduates are not prepared for life. To tackle this problem the programs focus on so-called *practical knowledge,* with the aim of equipping „students with intellectual tools they can use to adapt to a changing world and achieve their goals" (Kosslyn & Nelson, 2018a: 7). The proposition is not to train students for a specific job, so that they are also able to be successful at previously nonexistent jobs. Further, „an international hybrid residential model whereby students take classes on their computer but live together, rotating through different cities around the world" (Kosslyn & Nelson, 2018a: 8) is deemed to put students in touch with different cultures and be prepared to cope with and work in different societal contexts.
- *High costs,* the issue of too high tuition fees is tackled by radically reducing costs of large infrastructures construction, maintenance and administration. In general, most of staff are left out, there are no academic departments and therefore no secretaries, departments heads and staff, etc. The undergraduate tuition for the academic year 2020–2021 is $14,450.00 and the total estimated costs for the year is $27,950.00 ($31,900 fourth year only), plus around $5000.00 for living; this amounts to approximately one third of regular top-tier US universities, as they argue. Despite this, there are less than 20 students per class, and student services are still provided such as experiential learning programs, orientation, mental health support, residential services, and a living allowance (Kosslyn & Nelson, 2018a: 7; see also Minerva, 2020a).
- *Efficiency,* dropout rates/grade inflation are seen as the main issues in delivering education effectively. Here, the Project's answer is to design a program based on findings of science of learning, and to give personalized attention by means of close monitoring, a so-called „*full active learning* [… and a] radically flipped classroom" (Kosslyn & Nelson, 2018a: 11, emphasis in original). It means that all lectures and homework are done at home, with the possibility of support by other students and the teacher, in class. Further, there is a self-developed cloud-based program, called the Active Learning Forum (ALF), which contained special tools, „such as polls, voting, collaborative editing, and the ability quickly to compose breakout groups in various ways" (Kosslyn & Nelson, 2018a: 12) and is also used to monitor and collect data of individual development.
- *Access*, the main issue is that, globally, most qualified students cannot afford accessing a high-quality institution. Here, Minerva proposes to accept all qualified students without balancing admission based on any ethnic, gender or other demographic category. Students unable to pay for the tuition fees "receive a combination of work-study, modest loans, and grants." (Kosslyn & Nelson, 2018a: 8).

The reimagining of higher education illustrated by Minerva is pervasive and radical – as the proponents argue, they "push the reset button on higher education" with

the aim of 'solving the world's problems'. It sees itself as acting 'for the sake of the world' (Nelson et al., 2018: 377) and purports to offer a 'meta-recipe book' with a "systemic logic, first-principles-driven institutional design, and uncompromising iterative process with which new models of education can be built." (ibid.) Against the background of this high ambition, it appears as no coincidence that the Project's eponym is not only known as the Roman goddess of wisdom and tutelary goddess of poets and teachers, but also that of tactical warfare.[3] In terms of discursive practice, the publication of a book branding the project comes close to a missionary commitment to reshape the future of higher education (Kosslyn & Nelson, 2018b).

Although the operating range of the Minerva Project is still small and expansion appears rather restricted so far, due to several factors (not least international mobility in times of global pandemics) the main potential impact of this venture is its providing of not only a disruptive imagination of the future of HE but also an institutional setup and thought-out design that is viewed by many as a necessary innovation – in particular its 'radically flipped classroom' and digital technology with the promise of both cost reduction *and* high-quality/efficiency. A geopolitical perspective also allows us to deliberate on the spatialization of the project, which while located in the Unites States, aims at catering to 'the world', thus presenting itself as placeless and at the same time linking different global cities (San Francisco, Buenos Aires, Berlin, London, Hyderabad, Seoul and Taipei) in their global immersion feature in-built in the curriculum (Minerva, 2020b).

The two examples discussed in this section, although taken from distinct places and focusing quite different developments, hint at the pervasiveness of the geopolitical transformations that higher education is undergoing. They show how different actors – states, for-profit companies, individuals – are actively reimagining higher education, both in terms of their relations to other sectors of society and the functions it is to fulfil, but also in terms of the forms of organization, curricular formats, and social relations. While the first example, the international hubs, remain closely related to the territorial – and power – dimension of their promoters, the second, Minerva, ventures more clearly into the placeless flows and hubs of the New geopolitics of knowledge.

3.5 Conclusion

This chapter set out to suggest that a geopolitical perspective is useful in better understanding ongoing transformations in higher education globally. It has presented and discussed two strands of research that debate the theme of a geopolitics of knowledge; *first*, a recent discussion of the geopolitics of the knowledge-based economization that draws from intellectual developments in the disciplines of

[3] Minerva also adorns the Great Seal of California. The reference here is not only to the goddess of wisdom and knowledge, but also a reference that California was never a territory before becoming a state, an allusion to Minerva as she was born an adult from Jupiter's body (see: Apel, 2020).

geography; *second*, a debate sprung out of postcolonial criticism of the role of knowledge and epistemology in world order. Taken together, this perspective was drawn upon to argue that a *New Geopolitics of Knowledge* has emerged, in which currently higher education is integrated in the strategic imaginations and calculations of a host of actors – from global regions, states, to companies.

Central to the discussion is promoting an understanding of its functions as an imaginary of a preferred future that produces specific narratives and sustain particular policy paradigms as well as institutional designs that are in line with global knowledge-intensive capitalism. The discussion of geopolitics of knowledge in the preceding sections point to how HE and research are – on the one hand – seen as *assets* that play a central role as generating both value and comparative advantages in the (imageries of) global competition, competitiveness and transnational value chains, promising thus a comparative advantage in their asserting and/or improving their position in the global economy. They are integrated in the struggles for – economic, social, cultural – dominance of states and their ruling strata. Further, the two lines of the debate discussed above also show how knowledge production in higher education is part and parcel of the world order and the attempts to challenge, change or maintain a status quo that is no less pernicious than the old age colonial system. Notwithstanding the rhetorics of global unhindered (knowledge) exchange and international mobility, the current geopolitical transformations that higher education is undergoing, preserve and prolong what Mignolo and others have critiqued already in the mid-1990s.

Against this background, the New Geopolitics of Knowledge impacts substantially on higher education. Knowledge-intensive capitalism not only favors specific (positivist, empiricist) epistemologies and methodologies, it also gives preference to specific disciplinary fields and types of knowledge. Taken together, they bear importance for the infrastructures for knowledge production and dissemination, or in other words, research, teaching and learning in higher education.

From the perspective of Comparative and International (Higher) Education, this phenomenon is a matter of concern because it illustrates the increasing complexity in higher education policy, which potentially produces unforeseen, disruptive effects through the interplay of the 'global' and 'local', the discursive and the material. In the context of global education research, a geopolitical perspective provides an opportunity to study the intricate relations that constitute global discursive spaces, while at the same time attending to the interests and power play of global regionalisms, nation-states and companies competing for a place in the sun of the global knowledge-based economy. A reason for concern pertains not only the changed relationships of higher education to society, state, and the economy; it also raises questions about the far-reaching consequences and profound implications for higher education teaching and research infrastructures, policy and governance. Further, the geopolitical lens suggested here supports us in raising questions as to the geopolitical imaginations and the implications for the role and validations of science and education; the implications of these for social science and education research in terms of epistemology or epistemic governance; the learning environments as well as sites and modes of knowledge production; the archetypal subjectivities that are to

be produced – innovative, entrepreneurial, connected – and the deployed governmental technologies; and not least, the implications of these developments for individuals in general and for academic careers in particular, including their impact on working conditions on academic personnel.

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Chapter 4
Which Vision of Education for Late Modernity?

S. Karin Amos

4.1 Introduction

With the title, "Which Visions of Education for Late Modernity?" I wish to propose that we are actually working with two unknown variables: We are neither certain what will become of education as we know it – both with regards to its institutional as well as its organizational structures – nor do we yet know for certain what it means to live in an era that shows continuities as well as ruptures with what we designate as modernity. In lack of a better term, we refer to this new era, or rather this era of transition, as late modernity. Many scholarly debates in the social and cultural sciences are concerned with a description and interpretation of the current transition and have identified a variety of possible indicators.

A focal point in the debate on late modernity is the change in the role of the nation-state and attention is drawn to the multiple embeddings of its key institutions and their organizations such as education. In fact, much in the work of comparative education, especially of comparative policy analysis, investigates the ensuing new forms, actors and instruments with regards to the three dimensions of policy, politics and polities. In the context of describing and analyzing this era of transition or transformation, the discussion by Robert Cowen stands out because he has placed the term "transitology" at the center of his reflections (Cowen, 1996, 2000), for which he suggests the following definition: "[…] the more or less simultaneous collapse and reconstruction of (a) state apparatuses; (b) social and economic stratification systems; and (c) political visions of the future; in which (d) education is given a major symbolic and reconstructionist role in these social processes of destroying the past and redefining the future." (Cowen, 2000, p. 338). Arguably, we do not

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often see state apparatuses collapse in the dramatic sense of the fall of the Berlin wall and the following recalibration of the geo-political system on a global scale. Generally speaking, not only the political systems but the established social and economic stratification systems as well seem to be quite stable. However, we do see more fundamental battles over the symbolic meaning of education, indicating that the perceived stability and coherence may be treacherous. For one, as is broadly discussed for two decades by now, the relation between state and education systems changes and if we employ Cowen's term more loosely, we may designate the shift from state-centered to market-centered as an indication of the current "transitology". One vision of education for late modernity can, roughly speaking, be described as a technological one operating with the mindset of efficiency, maximization and optimization. Another vision of education, one that is more inspired by a relational mindset and a system's view of life, is not yet part of the mainstream. These largely opposing views or visions of the future of education are at the core of the following essay, which is a strong invitation to engage in further discussion, especially with regards to the overall focus of the book, i.e. higher education. The argument builds upon a brief reflection on the role of education in modernity (here defined as the period between the last third of the eighteenth century to the last third of the twentieth century) and its state-centered organization, and the late modern shift to a market-centered organization in the first section. The second section then deals with a phenomenon that is increasingly discussed in education as well, i.e., digitalization and algorithmization and the related debate on transhumanism. With regard to the latter, it is enhancement, augmentation and optimization, that are of particular interest and relevance in the context of education. These developments in turn illustrate the link to education being increasingly market-centered. In the third section, I will confront this perspective with a different notion of the relation between humans and their technology; a perspective known as posthumanism. Here, Donna Haraway's position seems to be particularly thought-provoking for a vision of education in late modernity. This section also marks a shift: from a descriptive to a normative one as I here take a pedagogical stand and argue for a direction that we might wish for education to take.

4.2 From Modern State-Centered to Late Modern Market-Centered Education

It is without question that modern education and its academic reflection are deeply implicated in the organization of societies as nation-states. Despite many criticisms of macro-sociological phenomenological neo-institutionalism associated with the so-called Stanford School founded by John W. Meyer and colleagues, I still find their work on "The political construction of mass education" (Ramirez & Boli, 1987) very convincing. In this and similar articles, they reconstruct the interest of emerging nation-states in the eighteenth Century as the founding context of modern

mass education. In their view, the nation-state is the result of a specific geo-political dynamics in Europe together with changes in the economic and religious systems. Part of the make-up of nation-states is a specific view of belonging and membership', which eventually came to be expressed in citizenship. State and citizens are tied to each other by a specific bond of rights and duties but also by an imaginative or symbolic realm that defines the highly institutionalized values, norms and belief systems. This very special relation is prominently expressed in education, which becomes the key institution of the nation-state as it is here that membership is created, bonds of loyalty and belonging established, but also boundaries drawn. The nation-state is only inclusive with regards to its (future) citizens, not to outsiders. The status of foreigner, which is defined by a foreign passport, provides only restricted access to resources, both real and symbolic. While public education was envisioned as being universal, in the sense of including both sexes, disregarding religious and social class affiliations, these "universalities" did not extent past the borders of the nation, and even within national contexts, may only be "ceremonially" be realized.

To illustrate this point, we may refer to historical and current controversies around the question of who has access to education. Until today, this question is relevant as the controversies around schooling for children of refugees, (im) migrants, or so-called illegal aliens illustrate. As any model, it is a simplified version of a very complex reality, but it draws the attention of the membership-creating function of mass schooling.

When scholars today claim a shift from state- to market-centered relations of education, they do not deny that usefulness and productivity did play a role in previous centuries. Of course, membership in the national community was connected to expectations of becoming an economically independent individual contributing to the well-being of the collective. The more so, as economic growth is a central tenet of modernity, related to progress and perfectibility. Nevertheless, the relations have changed quite dramatically: what used to be described as state-driven is now market-driven. In order to understand this more fully, I refer again to Robert Cowen, who has visualized the difference between modern and late modern education in a two-axis model intersecting in the middle. The vertical axis of the "modern model" is "polis driven: Equality of educational opportunity" as its upper designation and "national cultural identity" on the lower end, with "international education relations" on the left and "economic growth" on the right of the horizontal axis (Cowen, 1996, p. 160). The second, "late modern" model follows the same scheme, again we have two axes intersecting in the middle, the upper end of the vertical axis has "polis driven" replaced by "market driven", and "equality of educational opportunity" replaced by "internal efficiency and external effectiveness". On the lower end, "national cultural identity" is replaced by "differentiation of labour force". On the left and right side of the horizontal axis we find the "international economy" and "international knowledge" competition (ibid., p. 162).

Without question, these models are highly simplistic. They leave out all kinds of power relations expressed in a welter of relations of "difference" of access and only hint at cultural or symbolic violence expressed in the "national cultural" identity.

We need to keep in mind that these models, Cowen's or Meyer's like all models are condensations, abstractions and simplifications of an incredibly complex and rich reality.

In the years that have elapsed since Cowen's publications, there has been an incredibly rich and fruitful academic output on these new educational relations where the market replaces the state. The very fact that the terminology of new public management is already so deeply ingrained in our current educational structures is a striking illustration. We are all familiar with the discourses and practices of efficiency, effectivity, performance, quality assurance, public-private-partnerships, entrepreneurship education etc. for all tiers of the education system. The main referent being human capital development and the knowledge-based economy. Again, this by itself is not new and I would like to bring to mind Cowen's observation that past, present and future are more intertwined than strictly linear. The German novelist Günther Grass has established *VerGegenKunft* (a combination of Vergangenheit, Gegenwart, Zukunft for past, present and future) as a literary principle to illustrate this entanglement. To elucidate how the present was foreshadowed in the past, let us take the example of "knowledge" as a pivotal element in the shift from state to market-driven. Since the late nineteen fifties "knowledge" is discussed as a productive factor in economic theories and since the famous Sputnik Shock does the OECD take an interest in education, especially in the STEM-subjects. Long before the discussion on the pivotal role of the market became prevalent, in fact at a time when the welfare state was about to expand significantly in the post- World War II years, the relation between economy and knowledge was forged.

4.3 Digitalization and Market-Centered Education

Market-driven or market-centered education has another aspect on which I would like to focus on next, i.e., the provision of education. Education itself becomes a tradable good. A highly conducive factor pushing the provision of education and its commercial aspects is digitalization. There is no question about this. It will be very interesting to see after the current pandemic is over, how education has changed system-wide. But even without COVID-19, digitalization was well under way to deeply transform education. Digitalization redraws boundaries in profound ways. It is strongly promoted by all education stakeholders: International Intergovernmental Organizations (such as The World Bank, UNESCO; the OECD; the EU) but also by NGO's, by national governments, foundations, industry, especially the Educational Technology business. The motives are manifold. And here just the most salient will be considered. Since we are dealing with digitalization in the logics of the economic and commercial aspects: (1) Profit – the EdTech Industry is big business with growing shares in the stock market. It is not surprising that all of the familiar names in ICT corporations, Google, Apple, Microsoft, are all running big departments on education. It is also a prime area for start-ups and for companies such as Sylvan Learning Systems and many other providers in K-12 education. In higher education,

we find virtual universities such as Udacity or Coursera, to mention only two of the most familiar names in the business, often related to lifelong learning. (2) Justice and equality – this might be a surprise, but it is a logical consequence of the very characteristics of virtual provision of education. UNESCO promotes digitalization because although the development of digital material and formats is quite cost-intensive, it can be replicated and adapted almost infinitely and is hence easy to diffuse. The anytime, anywhere principle responds to differences in life world and individual circumstances. In some cases, there are not enough brick and mortar structures, i.e., physical buildings to ensure that those that have to be reached can be reached. This is a problem of the entire life span, from schooling, via tertiary education to adult and further education. For all ages access to the desired/needed educational and professional qualification is a problem that ICT offers promise to solve. This relates (3) also to professional development of teachers but also the creation of new jobs. An education evangelist such as Google's Jaime Casap promotes the educational use of technology on global platforms. This is one more facet showing how the geo-politics of education is changing. The keyword professional development relates more immediately to improving the quality of learning, such as learning analytics and personalized learning.

Increasingly, digitalization is the main structure for the entire operations of universities (and schools as well, of course): from student administration, via course provision to the issuing of diplomas and certificates, everything is running on ICT. The trend for digitalization and algorithmization also pushes regional university alliances. As universities are increasingly operating under a globally competitive framework, driven by rankings, but also by national and transnational political interest, they resort to creating synergies by seeking out partners according to their needs. In some cases, these may be political such as The League of European Research Universities (LERU) or The GUILD; they also may be the result of international initiatives such as the European University Alliances under the framework established by the European Commission. We find these alliances in all world regions with many of them even crossing continental boundaries. They collaborate in research, they promote mobility of students and staff, they develop joint or double degree study programs and they also respond to or pursue political agendas. Of course, universities have always interacted and collaborated internationally. But the ambition of universities in high modernity, i.e., in the nineteenth and twentieth centuries was to become the keystones of national education systems. The drive for a stronger regional integration sometimes clashes with the insistence on autonomy; an argument that is also often brought forth vis á vis national ministries responsible for establishing the regulative framework and overseeing the operations of universities. In a similar manner, regional integration promotes the trend towards standardization, while universities also have great persisting forces to retain their own *modi operandi*. The fact that the Bologna Process is implemented and realized in great variation across the European Higher Education Era testifies to this. To sum up: Digitalization leaves hardly anything untouched, from how education is delivered, its new forms of teaching and learning, its role in educational administration, teacher training, to name but the most obvious aspects. And all of these can be

commercialized. It is also a prime example for geopolitical transformation of education in all realms of education and especially of higher education. At the same time, it is also confronted with counter-forces, so that the geo-political education space may be described as multi-layered.

4.4 Perfectibility Revisited: The Transhumanist Dream of Infinite Optimization

Thus far, I may have conveyed the impression that digitalization and marketization is very compatible with justice and equality. Because of their inherent options for flexibility, digitalization is responsive to diversity and answers more appropriately to specific needs of students than the traditional one-size-fits-all model. In higher education, because of the many responsibilities students have to shoulder, a more flexible provision which does not require their full-time physical presence on campus, having more organizational freedom instead of rigid time schedules seems to be the road to travel. Also, with regards to international student exchange, virtual participation opens up new possibilities for students who do not have the means to go abroad. Hence, more students can experience an international exposure than ever before, which, by the way, is also positive in terms of the ecological footprint. This being said, there are also indications of digitalization causing or at least increasing inequality. Not all students own adequate hardware or are in places with good connections to the world-wide web. Better funded universities are likely to invest more in the pedagogy of digitalization to ensure successful teaching and learning. The fact alone that course offerings are more flexible is not in and by itself a guarantee for more social justice and equality. This becomes even more obvious, when looking at another trend closely related with digitalization and algorithmization. It is a trend the implications of which for social justice and equality are not yet fully explored. I refer to a movement that is known as transhumanism. There is a vision of education for late modernity, which one may designate as trans-humanist in the sense of transcending the limits of being human and "by design". The core idea may be said to envision the frail human being of being catapulted to the next levels of performance and longevity. I am thinking here in particular of examples such as Natasha Vita More's body by design project. This vision is very compatible with Cowen's market driven model. It is hyper-individualist, it is cost-intensive. From physical interventions to optimize the human body to technologically enhanced cognitive augmentation, it is clear that these offerings are only for selected few and not for humanity as such. Although many transhumanists also speak of connectivity, they not associate with it a radical relatedness of all biological and artificial organisms, or if so, then only ritualistically. As a form of cult or a techno-religion, transhumanism is selective and exclusive, is far from being for everyone. It also resonates with the aim of education as the differentiation of the work force (to remind us of Cowen's model of education and late modernity); even in the high-tech world of

transhumanists not all human beings are free to pursue to their self-optimizing dreams and freely choose their occupations. If this vision of education for late modernity became the dominant one, we would see the dominance of a high-end global education technology industry setting the standards and the pace. Transhumanism may be said to be the radicalization of high modernity, with the dream of immortality, rationality, autonomy, masters of our destinies, designers of ourselves. The consequence of realizing the transhumanist vision would be clear distinctions in provision and of access. I think that this issue has to be addressed more fundamentally than the aspects mentioned thus far i.e., the differences in hard- and software or inequality of availability of high quality and reliable technological infrastructure. At the heart of the transhumanist project is the question of who is considered to be fully human and thus can be addressed for optimization and perfection. Again, to use the Vergegenkunft-concept of Günter Grass, it makes sense to look to the past to see the present and the future. One of the keys to understanding the current transhumanist movement is Julian Huxley, first director general of UNESCO, proponent of scientific or evolutionary humanism and eugenics and promoter of human rights. In a collection of essays entitled New Bottles for New Wine (1957) he suggested the following definition for transhumanism:

> The human species can, if it wishes, transcend itself – not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for his new belief. Perhaps *transhumanism* will serve: man remains man but transcends himself, by realizing new possibilities of and for human nature. (ibid., p. 17)

As a utopian vision, belief or ideology, transhumanism is universal and includes mankind as such; but when turned into technological practice, its limitations become obvious – not to mention its speciesist bias.

4.4.1 Visions of Education for Late Modernity, Part I

Again, we may refer to the current crisis to see a bit more clearly where we might be heading. It may be premature, but for the sake of provocation, I predict that the model of universal mass schooling will increasingly be under pressure in the decades to come. I do not mean to state that it will suddenly disappear, but its authoritative and legitimative powers will become weaker, exacerbated by the present situation, where home schooling becomes a global reality. So in the future we might see a greater variety of simultaneous forms. This is also true for higher education, where the default mode of on-campus provision for mostly young people entering the institutions after graduating from secondary schooling will also be increasingly confronted by a variety of other forms. In both cases K-12 as well as higher education, digitalization is a key in explaining the proliferation of forms and modes of institutionalization. As stated previously, even under market conditions, digitalization has potential to advance social justice and equality, but not automatically so. Uneven access, uneven provision of infrastructure, hard- and software; uneven

professional skills, uneven readiness and familiarity of students with independent and largely self-directed use of technology, will increase the trend of social polarization. In addition, there is much criticism of schools more so than of universities, not to be digitally up to speed. At the same time, the membership creating function becomes weaker. As hinted at earlier, membership in this sense is closely linked to the nation-state as the standard geo-political unit of organizing societies. Large public education institutions carry the biggest burden in socializing young people to assume their future roles as citizens and contributors to the collective good. But the scenario of a future proliferation of all kinds of forms of education including highly personalized ones with individualized credentials, counters the common experience and is a problem for democracies. Parents investing much in the material and non-material support of their children are becoming impatient with seeing them learning in the same settings as less fortunate children from less willing and able parents to provide the necessary support. How this plays out in the end, is open. But the auguries are not very favorable. As our present involuntary laboratory situation, where due to the pandemic, education globally was catapulted in the digital orbit, shows: Digitalization is not a homogenous movement with the same global implications for education. It causes new inequalities between and within countries and regions. Although the setting is different from a dependence on physical buildings with classrooms and lecture halls, it still requires a sound and reliable infrastructure that is far from being sufficiently established. Digitalization also implies difference in the offerings, from very sophisticated software including virtual or augmented reality settings to rather primitive platforms; from pedagogically elaborate and artistically demanding video productions to audio-visual material in poor quality. It is obvious that technology by itself is not the answer, it takes pedagogically knowledgeable and versatile teaching personnel on all educational levels. The bottom line of these very sweeping generalizations is: Education in late modernity will be more fragmented, more heterogenous, more uneven. Perhaps we will even see the end of universalized schooling which was the trademark of high modernity. *Prima vista*, this version of the vision of education for late modernity too, is reactive rather than proactive. It reacts to new formations, symbolically and physically, formations which we discuss under the simplified umbrella term of globalization, with its driving force of economic competition and therefore the educational stimulation of competitiveness. This may also be said to be at the bottom of our current educational geo-political reformation. What is lacking in many debates is a pedagogical vision, not in the sense of *how* to teach, which in German is known as *Didaktik* but in the fundamental sense as a vision of education, an answer to the question: How do we want to live together? Let me be clear here: I not rooting for a homogenous vision, there is no single answer and there should not be one. The following sections discuss positions that might be helpful for further discussions.

4.5 Education, Relationality and "World Making"

This part of my musings is admittedly highly speculative. It takes its cues from contributions outside of the proper sphere of education and pedagogy. It looks for diagnoses of our current state of society on a global scale without following the logics of what we simplistically mean by globalization. One is Donna Haraway's Staying with the Trouble, the other is Arturo Escobar's Designs for the Pluriverse, published in 2016 and 2018 respectively. Both publications focus strongly on the idea of "world making", or in Escobar's terms "worlds making", or the "making of pluriverses" (Escobar, 2018), in Donna Haraway's terms: "worlding" (Haraway, 2016). A third version would be a theological-philosophical one following Simone Weil, known as "mondialisation" (Supiot, 2019). Mondialisation recurs to the original meaning of globalization as coined by the Belgian biologist Ovide Decroly in 1929. In this view, globalization is a cognitive function to comprehend reality in its entirety without a previous knowledge of its composing elements (Supiot, 2019, loc. 94). In this sense, mondialisation or American English "mundialization" has the planetary ecumene in view, the regard for life and the respect for its pluri- or multiforms and is used as a counter-concept to our present of common understanding of globalization as closely related to the market, to flexibilization of labor and cultural homogeneity.

These approaches share the same basic concern. Escobar's central instrument of description and analysis is "design" in the late modern sense of an encompassing engagement with wicked problems transcending the realm of single disciplines or single realms of action (Escobar, 2018; Manzini, 2015). The understanding of design in this sense, as a way of dealing with the challenges of our time, from decolonialism via postextractivism, alternative models to economic growth as we know it, issues of sustainment etc. is closely related to dealing with transitions.

> The literature on transitions makes it clear that transitions are not designed but emergent. They depend on a mix of interacting processes, both self-organizing and other-organized (by humans). Emergence, […] takes place on the basis of a multiplicity of local actions that, through their (largely unplanned) interaction, give rise to what appears to an observer to be a new structure of integrated whole […] without the need for any central planning or intelligence guiding the process. […] Ideas about emergence, self-organization, and autopoiesis can be important elements in rethinking theories of social change. (Escobar, 2018, p. 152)

The central task then is to bring together the debates on transitions with more recent developments on thinking about design. For Escobar, the main point is in grounding transition design (1) in "living systems' theory as an approach to understanding/addressing wicked problems." By this he is mainly referring to the groundbreaking work of Humberto Maturana and Francisco Varela, two biologists who have revolutionized our thinking about life as a great system which by extension also refers to the social realm. The work cited here was written by both and published in 1987: The Tree of Knowledge;

> (2) Design solutions that protect and restore *both* social and natural ecosystems; (3) Sees everyday life/styles as the most fundamental context of design; (4) Advocates place-based,

> globally networked solutions; (5) Designs solutions for varying horizons of time and multiple levels of scale; (6) Links existing solutions so that they become steps in a larger transition vision; (7) amplifies emergent, grassroots solutions; (8) Bases solutions on maximizing satisfiers for the widest range of needs; (9) Sees the designer's own mindset/posture as an essential component of the design process; (10) Calls for the reintegration and recontextualization of diverse transdisciplinary knowledge. (Irwin, 2015, p. 3, quoted in Escobar, 2018, p. 158)

Against the background of what has been said earlier, it is obvious that Escobar does not mention any large collectives such as the nation-state. His vision for solving mankind's problems is by delegation to smaller units, solutions "on the ground", so to speak, who by networking and connecting will contribute to finding solutions on a global scale. But, here the crucial difference comes in: while globalization is identified as a hegemonic project, mundialization or world making takes the specific life worlds as its main referent. This is also the impression one gets from reading Donna Haraway. Her main focus is not on design, but on narratives. She relies on SF as the creative force. SF has many meanings, among others, string figures, speculative fabulation, science fiction, string, figures, but also simply so far. The telling of stories is a central idea, the creation of patterns involving many actors, human and non-human with different capacities. Both authors despite their differences have a similar mind frame and intersecting intellectual preferences. Interconnectedness figures prominently in both oeuvres, but in Haraway's world, there is not only primarily human connectedness, but a connectedness of "critters", for which Haraway's life partner, Rusten Hogness, coined the term humosity to indicate a world where the human is radically decentered and one part in a huge recycling process of dying and becoming. Haraway is certainly post-redemption, also post-optimism, with a radical focus on the present. The main idea of her book is to live and die well together in a thick present. There may not be a future, who knows? But there definitely is a present, a rich here and now, which is passed by all too easily, although it is all we have and the only time-space (at least for biological organisms to live in). Escobar's tone is overall more hopeful in the sense of finding solutions that may work on a larger scale through association and connection. Both thinkers offer visions not only of but also for late modernity as communal, inter- and intra-active, radically interconnected. Whereas Escobar places autopoiesis, the self-referentiality of organisms which he takes from Varela at the center, Haraway speaks of sympoiesis, being together with, humble, response-able to answer to each other's needs. Haraway stresses the difference between sympoiesis and autopiesis and dismisses the latter's emphasis on self-referentiality, but in the end, both positions have more things uniting than separating them. Both positions are post-growth in the classical sense, skeptical of globalization, they look for different models than capitalism and, as already mentioned, they radically de-center the human especially in the sense of its most prominent modern presentation, the white European or Western male.

What exactly are the implications of these radical re-positionings of being in the world, of reading and making worlds, of nurturing response-ability? It is quite obvious that none of the forms and provisions of education as we know it, addresses the concerns of these visions. In the final part, I will discuss the implications more fully.

4.5.1 Visions of Education, Part II

The diagnosis of scholars like Escobar and Haraway is clear enough: Without a significant change, not to say transformation of our mind-set, late modernity may as well be the last stage not only for humanity, but for the planet. Interestingly enough, education is not a major point in their diagnosis and suggestions for remedies. The explanation for this could be twofold. On the one hand, both do not invoke mass education as we know it, because – in line with their argument – it is part of the problem and not of the solution, be it state-centered or market-centered. The DNA of education including its current transformations promising a more personalized provision through algorithmization and digitalization, is the basis of the mindset that created the global problems which they address in the first place: competition, growth, "rugged individualism", etc., i. e., reliance on Western rationality as the only access to valid knowledge. Therefore, mass education with its close link to the geo-political space of the nation-state cannot show a way out of the present predicament. The other explanation for not dealing with education is that they both seem to take socialization and education for granted. Education will thus automatically be a result of the communal transformation. For Haraway, the basis of the communities she envisions in the last part of "Staying with the Trouble" is SF. It is the pleasure in creating worlds through speculative fabulations and string figures, that is the mixing and blending across species driven by the ability to respond, to be sensitive to each other's needs and to care for life in all its forms. Despite the stress on storytelling and narratives, Haraway is also a representative of the new materialism. Education for her would entail being materially and physically connected. If one would have to name an educational theory that is compatible with her visions, it would be John Dewey rather than Wilhelm von Humboldt or Maria Montessori. One of the main sources in Escobar's work is Varela's Ethical Know-How (1999), where he proposes the non-solidity of the self, or the subject, proposing the notion of a selfless or virtual self as an emergent property of a distributed system mediated by social inter-actions (Varela, 1999, pp. 52–63, quoted in Escobar, p. 126). For Escobar as well as for Haraway the acceptance of the non-solidity of the self gives rise to a fundamental disposition of caring. From this arises the question of how to foster and nourish this attitude or disposition in our collective form of living. The answer is a rejection of the established responses of education as we know it: through rationalistic interventions, through self-optimization, through norms. Rather, the ethics of caring must be nurtured through a suspension of the ego, via disciplines that are conducive to develop habits that are not self-centered, that validate spontaneous compassion and non-duality (Escobar, 2018, p. 127).

Whereas transhumanists flourish in a world of inequality of means, resources, goods etc., posthumanists of the ink of Escobar or Haraway have no use for stratification unless it is functional. The cult about social distinctions is alien to them. The envision communal lives of caring and response-ability, where the individual participates in the well-being of all, but is not the group and not of the individual is at the center. Although in no way identical, there are certain family resemblances with

the African notion of *Ubuntu* and the Latin American concept of *Buen Vivir*, perhaps in both cases a little more with regards to the latter. Myths, cosmologies, alternative narratives to the master narrative of progress and perfectibility figure prominently in the works of both thinkers, they freely integrate science with other epistemologies, both of their pluriverses are small entities, they envision life in groups which means small communities with much direct contact.

It is hard to see education with rigid structures of knowledge compartmentalization, curricula, class promotion, grading systems compatible with this vision of education for late modernity. One thinks rather of small units, almost in a pre-modern sense as learning by imitation or in the mode of the ancient academy.

As stated earlier, mass education as we know it, is hard to reconcile with these versions of post-humanism. However, as attractive as these visions are, they also create problems. Public education, K-12 as well as higher education, are multilayered systems embedded and configured in a variety of environments, or in current parlance, part of complex ecosystems. It is one of the great achievements of modernity of having created a public sphere of which education is a major component, where what is taught and how it is taught is observed, critiqued, revised. The very criticism of mass education, from Illich (1971), via Bowles and Gintis (1976) to Bourdieu and Passeron (1977), to mention only the most prominent positions, is also an indication of its strength. Although mass education does not always fulfill its mission of drawing out the potential of every member of the young generation, it is still accountable and not "let off the hook". Discourses on educational justice and equality would look very differently if education were to become solely a communal affair. What is needed then, is an educational theory that draws it all together. One that re-envisions public education with a non-compartmentalized organization of knowledge, that takes connectivity and response-ability, another term for caring as its organizing principle, one that encourages collaboration, is critical of ideologies that place the human being at the center of the universe, one that encourages non-dualistic thinking and the non-fixity of the self, pays attention to the multiple entanglements both material and non-material.

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Chapter 5
Two Faces of Geopolitics of Knowledge

James Partaken

"the sovereignty lieth hid in knowledge"

Francis Bacon

5.1 Introduction: Geopolitics of Knowledge

Knowledge is central to the extant characterizations of our world such as knowledge economy, information society, network society and surveillance capitalism. Geopolitics of knowledge is real and of highest relevance because of its impact on the sustainability, development and peace of its protagonists. The push and pull over knowledge in international relations only corroborates the Baconian insight of "knowledge is power" (Bacon, 1597/1825).

This chapter defines geopolitics as "Politics, especially relations between states, as influenced by geographical factors" (OED, 2020). The English noun 'geopolitics' was first attested in the 1901 essay *England at close of Nineteenth Century* to *The International Monthly* magazine by Emil Reich (1901), probably a translation of the word *geopolitik* coined by Swedish political philosopher Rudolf Kjellén a year earlier (Kost, 1989). The term stayed dormant for decades but emerged during the World War II and, as a second upsurge, in the 1980s (Fig. 5.1).[1]

The prefix 'geo-' denoting the paramount importance of geography in the politics dates back to the European colonialism. After the 1871 unification of Germany, '*Wissen ist macht, geographisches wissen ist weltmacht*' (Knowledge is power,

[1] The word/phrase frequency figures in this chapter display results from the Google Books Ngram Viewer, which is based on the latest database—the 2019 *corpora* (Ref. Michel et al., 2011).

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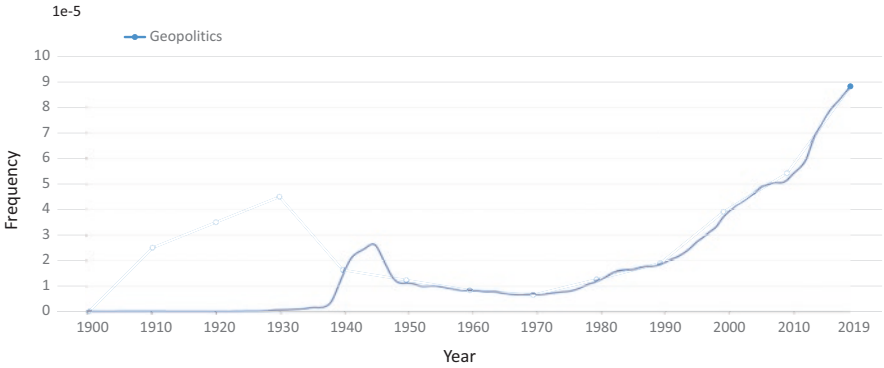

Fig. 5.1 Usage frequency of the word 'geopolitics'. (Reproduced from Google Books Ngram Viewer, 23 March 2021)

geographical knowledge is world-power) became a slogan in the German geography education and public discourse to foster and support an expansionist and hegemonic politics that would exacerbate during the National Socialist period (Shimazu, 2015). *Geopolitiks* of the German Reich was intellectually justified and nurtured with imperatives of world-power, hence, it "encouraged the development of the political and social sciences" (Kost, 1989, p. 374). While the seventeenth century 'knowledge is power' appeared as a divine attribute—*potestas Dei*—in Bacon's theology, the German '*wissen ist macht'* in the nineteenth century was a geopolitical doctrine.

Today, the recurrent nouns after the 'geopolitics of *' are in order of frequency: Knowledge, energy, oil, capitalism, Europe, war, South, Central, information and race (Fig. 5.2). Knowledge is clearly the most written and debated upon topic in contemporary geopolitics from 2010 onwards and it shows a sharper and sustained ascend in frequency of use than the geopolitics over natural resources. The discourse of 'Geopolitics of Knowledge' (henceforward, GPK) arose in the 1990s and quickly intensified through the 2000s and 2010s (Fig. 5.3).

The GPK-related discourses are many and their scope, wide. In the outset, this chapter looks into the *problématique* of GPK as is customarily presented in postcolonial studies. The main question arising from it is that the knowledge production is the main analytical perspectives of GPK in postcolonial studies. The central thesis in addressing this question is that the epicenter of GPK from colonialism onward has been the knowledge transfer rather than its production. This claim is illustrated with the ongoing economic neo-imperialism and the Sino-American tensions. The aim and purpose in this study are, thus, to argue that the *problématique* of GPK can be better understood by examining global knowledge transfer and its modalities such as knowledge exchange, gradients of knowledge-power, and the frequently coercive dissemination of knowledge.

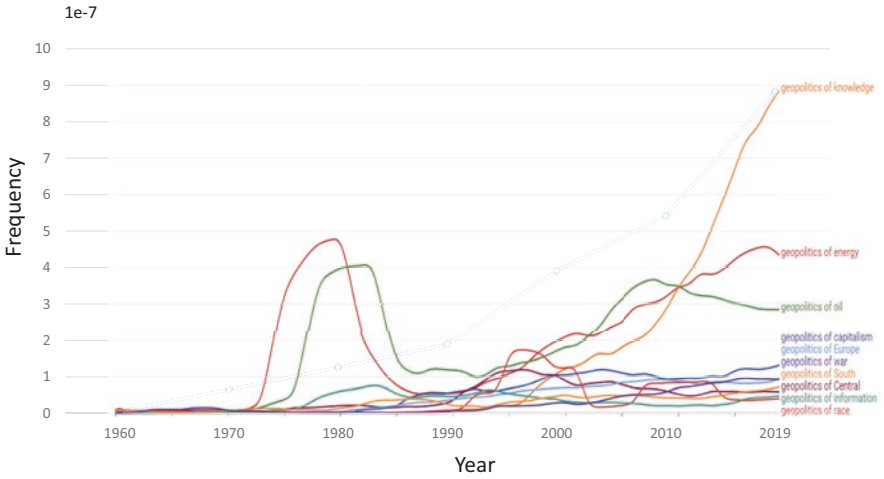

Fig. 5.2 Usage frequency of the nouns after 'geopolitics of *'. (Reproduced from Google Books Ngram Viewer, 23 March 2021)

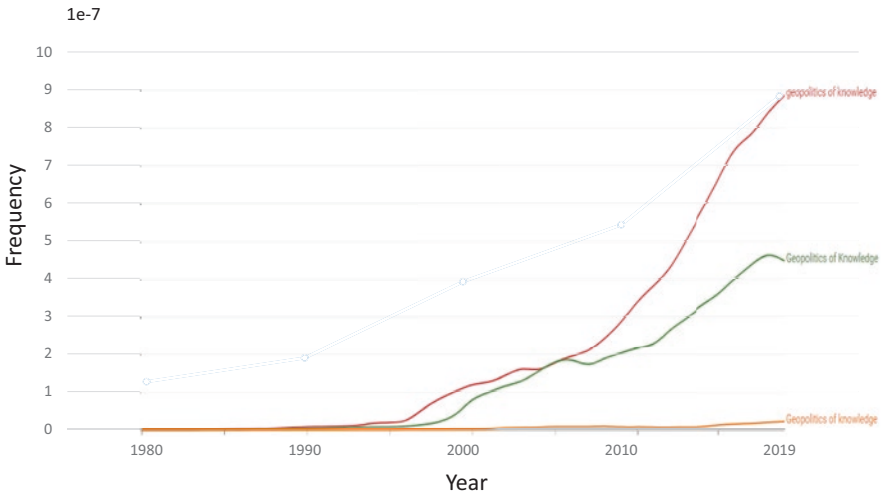

Fig. 5.3 Usage frequency of 'geopolitics of knowledge', case-insensitive. (Reproduced from Google Books Ngram Viewer, 23 March 2021)

This chapter devises two analytical steps, namely 'knowledge production' and 'knowledge transfer'. The discussions on the first half of the chapter about knowledge production draw on the extant postcolonial studies. The second half showcases the ongoing Sino-American tensions to demonstrate different modes of knowledge transfer that are crucial to the process of decoding contemporary GPK. The chapter ends with a discussion-conclusion.

5.2 Knowledge Production

A familiar description of the society today would run something like "Paradigm shifts in production, consumption, organization, and the nature of jobs are catalyzed by the progress in technology, Artificial Intelligence and Robotics in particular, leading to the impacts on human lives and driving societal changes." Similar descriptors can be found in the idea of the *Fourth Industrial Revolution.* Through the periodical he edits, Klaus Schwab promotes among the international economic forum circles the notion of *Fourth Industrial Revolution*, which purportedly has a direct impact on geopolitics (2018). Schwab briefly explains what he means but cannot really define the *Fourth Industrial Revolution* (2015):

> There are three reasons why today's transformations represent not merely a prolongation of the Third Industrial Revolution but rather the arrival of a Fourth and distinct one: velocity, scope, and systems impact. The speed of current breakthroughs has no historical precedent […], the Fourth is evolving at an exponential rather than a linear pace.

Caution should be called upon any causal extrapolations based on the idea that a lot more of the same is new. Since "revolution is not only incompatible but often actually incommensurable with that which has gone before" (Kuhn, 1970, p. 103), the proposal of the *Fourth Industrial Revolution* based on the amount of knowledge produced is missing out essential characteristics of scientific and technological revolutions—incommensurability if not even a total incompatibility.

5.3 Ownership of Knowledge

The English term 'knowledge production' appeared in books only after the 1960s and became popular in the 1980s (Fig. 5.4).

Not entirely by chance, there was an initial international patent law in the same period, the *Patent Cooperation Treaty*, which was ratified by eight states in 1970. A broader international consensus was reached with the *Patent Law Treaty*, which was subscribed by 53 states and the *European Patent Organisation* in the year 2000.

We have to note that international patents are probably one of the most tangible and reliable indicators of global knowledge production although they surely do not and cannot represent the objective quanta and qualia of the entire body of knowledge. We also need to take into account that the dynamics concerning patents are frequently changing because of the variety of items and ways they are measured, for example, the relationship between the number of patent applications versus the number of licenses granted differ substantially. The same holds true if one considers the type of patents such as a *Triadic Patent*—approved by Japan, the US and Europe—and whether it includes all fields or high-tech field only, and to what extent the three major patent offices are used or not.

With international patents as indicators, we can grasp the kind and ownership of potentially profitable knowledge, for example, the actual ownership might belong to

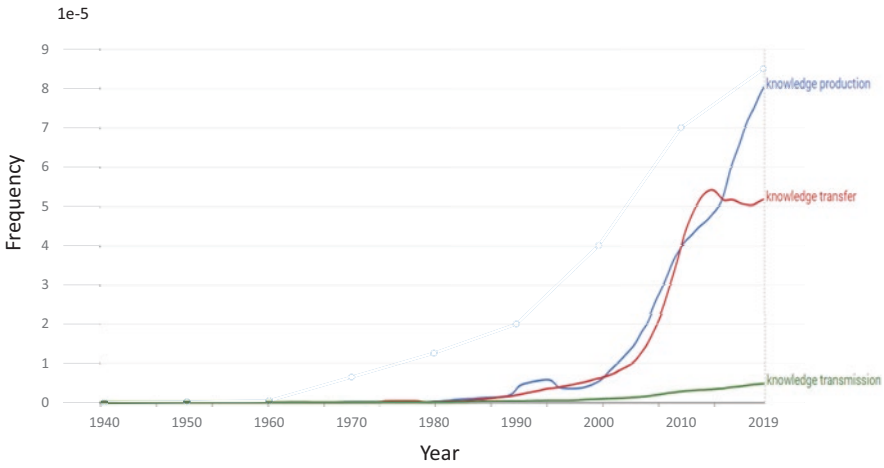

Fig. 5.4 Usage frequency of 'geopolitics of knowledge', case-insensitive. (Reproduced from Google Books Ngram Viewer, 23 March 2021)

the patent applicant/holder rather than the actual inventors. Research by Francesco Lissoni (2012) takes full advantage of this phenomenon of the appropriation of knowledge—produced by others—and offers insights into who and where are the real knowledge producers. The role of the European academia and academics in the production of patents is the focus of Lissoni's research: "academic inventors' contribution to patenting is concentrated in science-based technologies, such as Pharmaceutics & Biotechnology (which includes Cosmetics), followed (at some distance) by Chemicals & Materials" (2012, p. 199). Of all patents, only about 3–18% are actually invented by academics. The same research also reveals that European 'academic patents' are mostly owned by industry companies (between 60% and 81% depending on the country). The data from the United States display a very different situation with 68.7% of the patents owned by universities whereas companies own 24.2% and individual academics, 5.3%. This phenomenon could partly be explained with decades of incorporation of American universities and/or the research capacity of private universities in America (Ginsberg, 2011).

The contribution of soft sciences such as sociology, education and humanities to these figures is very rare. Hard science fields absolutely dominate the global patentable knowledge production and, within this category, the kind of knowledge relevant to commerce and trade. Not only such knowledge is of great interest for the states but, often, they are also state-owned and/or supervised. Furthermore, patent registration processes are monitored by the signatory states of relevant international treaties.

In the typology of knowledge, Lyotard distinguishes the 'narrative knowledge' from the 'scientific knowledge' (1979/1984). Sociology and humanities pertain to the former kind of knowledge. Contemporary states closely monitor the production of scientific knowledge but, for centuries in the past, a score of imperial states have had strenuous control over either type of knowledge in their colonies.

5.4 Knowledge in Postcolonial Studies

Production of knowledge is one of the most deliberated problems in colonial and postcolonial studies. It is for a reason: Geopolitics surfaces not only etymologically (*vid. supra* '*Wissen ist macht'*) but also epistemologically from the modern socio-historical structure of colonial world-system (Mignolo, 2002; Wallerstein, 2004). The following paragraphs illustrate how colonial and postcolonial studies are utmost concerned with knowledge production, that is, on who produces knowledge, what is the nature of its content and from which perspectives such knowledge is generated (e.g., Eurocentrism and Western epistemology).

Frantz Fanon's *Black Skin White Masks* (1952/1986) triggered the decolonization movement in the 1960s against French racism and the dehumanization of colonial subjects. Fanon called this process 'authentic disalienation' (Fanon, 1952/1986, 5), by which locals' identity, psyche and culture, mediated by language, are to be restored. This insight was further developed in his *The Wretched of the Earth* (Fanon, 1963), which starts with a chapter on the violence as a social, cultural and political currency in colonial territories. Since culture, economy and polity are entangled, violence initiated and instrumentalized by colonizers takes various forms among which cultural discrimination and dehumanization (alienation) outstand. Economic sanctions and tributary impositions are only different modes of the violence. It is within and through the violence that a particular type of new knowledge (language and humanity) with its racial and cultural hierarchical structure, engenders a new human—the colonial subject. This one-way violence does not last forever, however. Fanon draws on his profession of psychiatry to argue that the colonizers' violence is met with a counter-violence of the colonized in the manner of collective catharsis. Thus, decolonization is not only violent and revolutionary but also a healing process for the colonized.

A half a century later and with many colonial territories freed of physical occupation of their lands by foreign powers, the discourse of imperialization and decolonialization are on the rise in Asia (Chen, 2010; Connell, 2007; Tharoor, 2017; Vukovich, 2013). Tharoor argues, for example, that modern India lost much of its civilization under the British rule, and it achieved independence with only 16% literacy rate, and is still struggling to educate (Tharoor, 2017). He showcases the English language, which was "not a deliberate gift to India, but again an instrument of colonialism, imparted to Indians only to facilitate the tasks of the English…[that is to produce] a class of persons, Indians in blood and colour, but English in taste, in opinions, in morals and in intellect" (2017, p. 122). Colonizers produced deliberately designed history subject for schooling where the superiority of "all things British" was engraved into Indian students. Tharoor and other authors in postcolonial studies commonly argue that schooling curriculum content was at the service of the imperial interests. In fact, knowledge production and reproduction via pedagogy was a tool of colonization.

In contrast, knowledge production appears not as a tool but as the most glaring problem *per se* in Asia according to Chen Kuan-Hsing (2005, 2010). He argues that

knowledge itself is "one of the major sites in which imperialism operates and exercises its power" (Chen, 2010, p. 211). Thus, in the opening of his 2010 opus magnum, Chen calls for "critical intellectuals in the former and current colonies of the third world to once again deepen and widen decolonization movements, especially in the domains of culture, the psyche, and knowledge production" (2010, p. vii).

Decolonization of Asian countries is an incomplete and ongoing process. Decolonization is not about giving up or forgetting colonial experience. Instead, Chen argues, "Asia requires a different sort of knowledge production" (p. 2). Knowledge is not only a problem of history that Asia has to put up with, but a pending homework of Asian societies today. In order to disentangle the *problématique* of colonial knowledge and move on, Chen highlights, there is a need for an alternative knowledge that can prevent "the kind of knowledge work that lays the foundation for future imperial expansion" (p. 34). Chen argues that the logics of market cannot explain well current social and political structure in Asian countries (Chen, 2010, p. 71):

> in East Asia, intellectual circles in South Korea, Japan, Hong Kong, and Taiwan cannot use their own existing analytical tools to understand the structural operating logic of the state and society in mainland China, Vietnam, and North Korea. The simple notion of the market does not suffice to explain the social and political formations there. Elements of the socialist era are still operating. To quickly abandon the analytical language of Marxism would not produce a proper understanding of ongoing transformations

Chen considers his intellectual position a "geocolonial historical materialism in order to develop a more adequate understanding of contemporary cultural forms, practices, and institutions in the formerly colonized world" (Chen, 2010, p. 1). This Marxist or neo-Marxist interpretation would constitute a new knowledge of a geopolitical kind, which could overcome the present conditions of knowledge production in Asia. The historical processes of imperialism, colonialism, and the Cold War in Asia were meshed, which in turn, shaped and conditioned the knowledge production phase of GPK. In regard to knowledge produced by the academia, Chen contends that a great number of academics in Asia were trained in the United States and they are "now in power in their countries, where they are implementing another round of modernization. Knowledge production in the region has been heavily influenced by the U.S. academy ever since the end of the Second World War"(Chen, 2010, p. 120). Chen's concern is not the past but the present and the future of knowledge production.

The main goal of *Asia as method* is, therefore, to transform the current mode of knowledge production so as to halt a mainstream international construct that Asia is at its best an object of analysis. Instead, Chen suggests, Asia should stand tall as a means of transforming knowledge production (Ref. Chen, 2010, pp. 216 & 227) to understand itself and the world at large. Furthermore, Chen does not only suggest challenging the history of imperial/colonial knowledge production. Instead, he suggests an Asian integration to counteract neo-imperial and neo-colonial forces of globalization (Chen, 2010, p. 268):

> we cannot allow ourselves to be swept up in the rush toward neoliberal globalization…We have to insist on advancing the critical work of deimperialization, decolonization, and decold war, and facilitating regional integration on the level of knowledge production through the practices of Asia as method

At the core of Chen's works lies a strong criticism of knowledge produced by the global power holders. One of its focuses of inquiry is how instrumentalized knowledge serves (neo)imperial and (neo)colonial appetites.

5.5 Decline of Narrative Knowledge

Knowledge production as one of the key problems of colonialism still holds true today, when military might is replaced with neoliberal states' financial, economic and soft power (Nye, 2004). Instead of territorial occupation and exploits, new modes of imperialism and colonialism operate in the current context that the capitalism of old gave way to neoliberal globalization.

Amidst these changes, 'narrative knowledge' (Lyotard, 1979/1984) produced in social sciences and humanities are in steep decline in significance and relevance. In social sciences with cognates such as science of administration, for example, the 'war of epistemologies' has silently, yet effectively replaced the 'war of paradigms' (Park, 2015). With the rise of hard science, theories of knowledge became gradually equated to the philosophy of science, which studies the limits, justification and validity of production of scientific knowledge. Producers of narrative knowledge are fewer and these are overly concerned about epistemology, an inquiry cluster that has been overexploited and ultimately downgraded the relevance of narrative arguments and claims. In my view, to the definition of postmodern "incredulity toward metanarratives" (Lyotard, 1979/1984, p. xxiv), we should now add all sorts of lesser narratives.

The narrative knowledge generated by postcolonial studies have criticized knowledge production by colonial powers and suggest an indigenous knowledge production as an antidote. If instead of their focus on the knowledge production, we were to pick 'knowledge transfer' as the decoder, the postcolonial world as well as neocolonial dynamics of the ongoing globalization with GPK as its motor could be better understood.

5.6 Knowledge Transfer

Almost as soon as knowledge with value is produced, it undergoes a process of appropriation. With this early transfer of ownership, knowledge becomes subject to the interplay between the knowledge producer and acquirer. Knowledge is now in motion. It could be taught, learned, sold, bought, stolen, censored, classified, prescribed or passed on to the public. Let us call this set of possible movements

'knowledge transfer' in order to demonstrate that GPK principally hinges around knowledge transfer rather than its production.

Knowledge transfer has been speculated philosophically. Greek metaphysics on *agathos* (good) is the basis of theoretical elaborations on the transferability and the expansive nature of knowledge. Well reflected in the Latin dictum '*omne bonum diffusum sui est'* (every good thing tends to diffuse itself) of Neoplatonists and Neoaristotelians such as Pseudo-Dionysius and Thomas Aquinas (McClymond, 2010, p. 92): Knowledge is a good and, as such, it tends to spread out and disseminate among people.

However, for the same reason that knowledge is a good, its transfer has not always been fluid. On the contrary, knowledge has been associated with intellectual and social hierarchy since the Antiquity as is reflected in the 'good and wise' (*agathos kai sophos*) in Plato and 'superior person' (君子*junzi*) in Confucius (Park, 2016). In the Modernity, knowledge has been a key site of international conflicts over resources and market; ideologies with justification of ways of life and values; and, power. These are not mutually exclusive, for example, "power is not only a means for securing economic advantage or ideological maximization, it is also a source of conflict in its own right" (Katz, 1965, p. 374). Knowledge is at the center of contemporary geopolitics with the highest level of tensions in its transfer.

5.6.1 Forced Knowledge Transfer

Teaching and learning are key mechanisms of knowledge transfer. Not seldom, GPK takes the form of top-down knowledge transfer through prescription, coercion and force. The content and mode of transfer of knowledge are the main concern of curriculum and instruction—pedagogy. From the Greek *Paideia* to the Confucian *Great Learning*, the ideal and real goals of pedagogy have been dauntingly broad if not ambiguous.

Today, attainment of knowledge is linked to individual and social development to the highest levels of growth and wealth (Pilling, 2018; Smith, 2016); thus, teaching and learning are depicted as a tool of empowerment or, conversely, disempowerment. Freire's account of knowledge transfer denounces the problem of pedagogy at the service of power-holders. It underscores a dialectical relation between knowledge taught and received (1972, p. 17):

> the radical is never a subjectivist. For him the subjective aspect exists only in relation to the objective aspect (the concrete reality which is the object of his analysis). Subjectivity and objectivity thus join in a dialectical unity producing knowledge in solidarity with action, and vice versa

From the perspectives of oppressor-oppressed dialectics, knowledge flows downward from the objectivity of the oppressor to the subjectivity of the oppressed. There is an upper hand and lower hand in the gradient of power, which Freire connects to his famous *banking* concept: "In the banking concept of education,

knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing" (1972, p. 17). Freire further explains who the protagonists of the referred dialectics are: "the 'professor' is the one who has knowledge and to whom they [peasants or oppressed] should listen to. The criteria of knowledge imposed upon them" (ibid. p. 39). The passage also indicates a power hierarchy in knowledge ownership and a direction of flow in knowledge transfer. Freire's concern is the gap between the oppressor and oppressed, that is, "the distance between the teacher and the taught" (p. 50).

Freire's account of knowledge transfer draws on the postcolonial state of affairs in Brazil, when citizens were forced to acquire and live with ethics and psychology aligned with the dominant power structure. An 'educational science' can be identified with five formal steps in knowledge transfer, say, *à la* Herbart: Preparation, presentation, association, generalization, and application (Hilgenherger, 1993). Earlier in the colonial lands, comparable knowledge transfer was planned and executed. It can be illustrated with a unique case in the history of colonization where several Asian nations were colonized by a neighbor in the same continent. During the Japanese colonial expansion in Asia, the book *Kokutai no Hongi* (trans. Cardinal principles of the national entity of Japan) was painstakingly prepared, one draft after another with obscure authorship and editorship, but under a direct supervision by the *Bureau of Thought Control of the Japanese Ministry of Education* (1937/1949). This extensive and intricate text mythologized and deified the Shōwa Emperor and legitimized his leadership in the geopolitical expansion of the Japanese Empire (Beasley, 1950; Kublin, 1950).

An exorbitant number of *Kokutai no Hongi* copies were printed for colonial subjects and Japanese citizens, and its reading made compulsory in Japanese colonies across Asia (Hyung & Im, 2017). Geopolitical pedagogy of the *Kokutai no Hongi* is not a matter of history. An Osaka kindergarten sponsored by the Japanese Prime Minister Shinzo Abbe was reported for its forcing young students to recite the 1890 *Imperial Rescript on Education* by heart and every morning (Sposato, 2018). A passage of the rescript reads, "Should emergency arise, offer yourselves courageously to the State, and thus guard and maintain the prosperity of Our Imperial Throne" (Imperial Rescript on Education, 1890).

Knowledge exchange implies a bartering between two or more parties in comparable footings, hence, it is politically less sensitive than knowledge transfer. For instance, 'knowledge exchange' is almost always preferred over the term 'knowledge transfer' by universities in their mission statement. It is not clear that the current international relations operate through knowledge exchange. The ongoing neoliberal globalization could hardly be characterized with *dialogics*, which should be in principle a two-way act that characterizes 'open societies' (Park, 2009; Popper, 1952). Instead, the default geopolitics appears to be in top-down mode. With G-Summits and trade alliances, globalization enacted by 'superpower hopefuls' is but "capital-driven forces [that] seek to penetrate and colonize all spaces on the earth with unchecked freedom, and that in so doing have eroded national frontiers and integrated previously unconnected zones. In this ongoing process of globalization, unequal power relations become intensified, and imperialism expresses itself in a new form" (Chen, 2010, p. 4).

5.6.2 *Knowledge Transfer and Espionage*

Unequal power relations have deepened through the handling of knowledge from colonial era's top-down pedagogy to the current neoliberal globalization. As stakeholders of the global GPK, states openly inculcate knowledge production for profit, for example, the 'Creative Industries' where they encourage enterprises to commodify science-technology, culture and arts for local and international consumption (UNESCO, 2009). Furthermore, states also play a hands-on role in the ownership and management of knowledge. Global patents and copyright regulations are but an example of how capital-oriented and national-interest preoccupied states monitor knowledge transfer.

Since knowledge is a crucial asset and imperative for state power, and not every state can produce as much as it needs; different states react differently to this predicament. As this chapter is written, there are some major geopolitical strains over the transfer of data and information: between the USA and China over trade and military intellectual property; between the USA and Iran-North Korea over nuclear technology; between China and Russia over military aviation, sonar and missile technologies; between China and the West over the information in wireless network; between Hong Kong and the US over personal data storage amidst the National Security Law; and, among all the nations, over combating the COVID-19 pandemic. Furthermore, data breach and cyber-attacks involve almost every country on Earth, hacking being the most prevalent (Verizon, 2020). These cases have in common an unfair or illegal attempt to get hold of knowledge with ensuing reactions. Geopolitics of knowledge occurs at a greater speed and volume than the mediation capacity of international organizations such as the World Trade Organization and the World Health Organization.

For states and industries with capabilities to produce knowledge, research and development is the normal way to sustain growth and keep up with the rate of cutting-edge innovation (Seddighi, 2015). For developing countries and industries, research and development is an expensive and lengthy affair, hence, they look for alternatives such as direct purchase and the importing of knowledge-intensive products. Some states or industries might find it convenient to search for creative ideas from other innovators instead of inventing them on their own, which is an incentive to industrial espionage (Cozzi, 2001). A mega-scale research on the East Germany's state-backed economic espionage demonstrates, for instance, that the industrial and technology gap between East and West Germany was effectively narrowed down through espionage, which strongly suggests that economic and industrial espionage allows, in fact, a quicker access to knowledge with handsome economic returns (Glitz & Meyersson, 2020).

Economic and industrial espionage has its precedence in the eighteenth century industrial espionage between the United Kingdom and France over the coal-fuel technology knowledge transfer to France (Harris, 1998). However, disputes over intellectual possession among the European nations can be further traced back to a Venetian proto-patent law written between 1450 and 1550 (Prager, 1944). History

shows that GPK over knowledge transfer predates the Industrial Era and those countries engaged in such activities often are the "scientifically and industrially weaker party, the party that is learning or trying to catch up" (Søilen, 2016, p. 51). Economic espionage and industrial espionage differ in that the former implies "government's efforts to collect information, appropriate trade secrets, and steal knowledge" and, the latter, without government involvement (Søilen, 2016, p. 52).

Economic espionage constitutes a key justification of the Sino-American tensions. All American disputes over trade deficit and market access with European and East Asian nations started and ended in March 2018 with the exception of China. By the end of the same month, it was obvious that the real target of the trade dispute was China and not the rest of the American allies such as South Korea and Germany (Rasmus, 2018). The Sino-American trade war stated in July 2018 and it has now escalated into diplomatic knock-backs and military's repositioning. It took little time for political analysts and journalists to label the phenomenon as a new Cold War. Yet, there is a less and a more to it.

Less to it, because China has no ally nation worth its name to form a power bloc, unlike the Soviet-American Cold War when every country in the world took a side or remained non-aligned. China's lack of 'friends in need' is due not only to its poor diplomacy in many territorial and maritime disputes with almost all neighbors but also, above all, due to the enmity brewed by its four decades of self-centered business practices, typically, an international partnership that rather nastily ends in knowledge appropriation and elimination of the partner (e.g., Bloomberg, 2020). More to it, although the Sino-American tensions are ostensible in commerce, their real fault line might follow the differentials in mentality, culture, axiology and practice. The Sino-American tensions as a whole could also be seen as nothing short of a clash of civilizations wherein a civilization is defined as the broadest cultural entity and non-reducible to political entity such as the nation state (Huntington, 1996, p. 312):

> A more dangerous source of a global intercivilizational war is the shifting balance of power among civilizations and their core states. If it continues, the rise of China and the increasing assertiveness of this 'biggest player in the history of man' will place tremendous stress on international stability in the early twenty-first century.

Regardless of the Huntingtonean foresights, the facts on the ground indicate that Chinese neighbors already seem to feel the tremors of the rise of China (see Russia against China over strategic weapons in Simes, 2019).

In regard to the knowledge transfer aspect of the Sino-American trade war, the ultimate aim of the United States, possibly even after Trump's tenure in presidency (Kuhn, 2020), is to limit technology transfer, legal or illegal, from the United States to China (Rasmus, 2018). American surveillance on intellectual property theft, both industrial and military, predates the Trump administration. The '*U.S.-China Economic and Security Review Commission'* (USCC) was established by the United States Congress in October 2000 with the legislative mandate to monitor,

investigate, and submit to Congress an annual report on the national security implications of the bilateral trade and economic relationship between the United States and the People's Republic of China, and to provide recommendations, where appropriate, to Congress for legislative and administrative action.

In its hearings and written reports to the US Congress, the USCC uncompromisingly states that China "depends on industrial espionage, forced technology transfers, and piracy and counterfeiting of foreign technology as part of a system of innovation mercantilism" (Munsey, 2013). In a US Department of Justice (FBI) survey of 165 companies, 50% acknowledged that trade secrets or intellectual property had been stolen and 95% suspected China was behind the thefts (Chon, 2015; Dean, 2015). As of July 2019, the FBI had about one thousand investigations into Chinese intellectual property theft, including Beijing's the '*Thousand Talents Program*'. This program brings Chinese professionals overseas back to China, in a 'Brain Gain' fashion, with huge financial/professional incentives. Yet, to the eyes of the US government, it might be just one more Chinese state machinery that formalizes and exacerbates knowledge theft (AFP, 2019). As argued earlier, the cause of international conflicts is over power, resource and ideology (Katz, 1965) and, to the imperial eyes of the US, arguably, the three causes are: the power of the Chinese Communist Party and the National Science and Technology Leading Group (国家科技领导小组); the resources for the 'Made in China 2025' strategy (Tse & Wu, 2018); and, the ideology of 'The Chinese Dream' (中国梦).

Instead of producing innovative thinkers, a state, any state, can paradoxically turn inwardly, away from the open of global knowledge flow that is crucial for spearheading authentic innovation. Inward looking strategies in knowledge acquisition leads to a self-imposed ostracism, which in turn, tightens up the control of the media, public education and basic rights such as freedom of expression and intellectual freedom (e.g., academic freedom).

Keeping at bay rivals is neither strange to geopolitics nor illicit, thus, states act upon their contenders with different doses of Machiavellianism. Knowledge transfer through espionage is, let us grant it, a short-term cost-effective means of securing economic development (Glitz & Meyersson, 2020). However, it is also a source of conflict, both internal and external, in its own right. Undermining knowledge constitutes a modality of GPK through a dual maneuver of concealment-exposure through surveillance, censorship, and sabotage.

5.6.3 Undermining Knowledge

GPK through surveillance, censorship, and sabotage intensifies in the context of the late modernity with a gargantuan knowledge repository and super-highway of knowledge transfer called the *Internet*. In a world that most of the human and

machine-generated knowledge pass through or are stored in the Internet,[2] the majority of GPK occur in the cyber-space and through cyber-tools.

Cyber-attack or data breach is a generic name given to illegal incursions into data and information networks regardless of the type of damage inflicted and underlying motives. Before any discussion on surveillance, censorship, and sabotage of knowledge, a phenomenological analysis of concealment and exposure of knowledge is necessary. Concealment is an act of intentionally rendering certain knowledge inaccessible, for example, hiding one's feeling. Contrariwise, specific knowledge can be exposed at convenience, for example, turning their adversaries vulnerable with past scandals.

Neither concealment nor exposure is illicit *per se*. Thomas Nagel (1998) argues that there is a tacit social agreement over making use of concealment to dodge inconvenience or evil: "conventions of reticence and privacy serve a valuable function in keeping us out of each other's faces" (p. 4). At the individual level, concealment of certain knowledge from others can be justified because "the boundary between what we reveal and what we do not, and some control over that boundary, are among the most important attributes of our humanity" (ibid). Furthermore, "concealment includes not only secrecy and deception, but also reticence and non-acknowledgment. There is much more going on inside us all the time than we are willing to express, and civilization would be impossible if we could all read each other's minds" (Nagel, 1998, p. 4). Parallels could be drawn with exposure—it could be for both for advantage or detriment of the involved parties. We can also envisage a significant variation across different civilizations in terms of culturally permissible level of concealment and exposure.

5.6.4 Surveillance

Surveillance rides on knowledge theft and spying but it differs from industrial espionage in the type of knowledge appropriated and, above all, who its legit holder is. The person or group under surveillance is assumed an actual or potential harm inflictor or criminal. The nature of appropriated knowledge could range from personal behavior, strategic information of an inimical state through an entire society or system, such as the 'surveillance society' and 'surveillance capitalism' (Wood, 2006; Zuboff, 2018).

Global mass surveillance via high-speed information and communication technology of the United States has been denounced for its operations without public awareness, let alone consent, against its own federal constitution for that matter, and afflicting the ordinary citizens more than the real criminals (Snowden, 2019). Unlike

[2] It is impossible to measure the amount of the amassed knowledge in the Internet since knowledge *stricto sensu* should be differentiated from data and information. However, the amount of data can be quantified—the 2018 snapshot and the estimates for 2025 stand respectively in 33 and 175 Zettabytes (1 ZB <>1021 bytes) (Reinsel et al., 2018).

the US that stores non-criminal personal information, the Chinese state gives it a more pragmatic use, say, from facial recognition and automated check-in in airports to color-marked QR Barcode for different level of exposure to the COVID-19. China also uses Big Data for permanent assessment of citizens' behavior and, according to individual points attained, citizens are permitted or banned for trips, their children allowed or denied access to quality education, their real time location made public to phone applications for financial crime prevention and so on—the *Social Credit System* (Kostka, 2019; Song, 2019).

The impact of surveillance on the surveilled is masterfully illustrated by Foucault in his *Discipline and Punish* (1995) with a parallel drawn from Bentham's *Panopticon* prison design. In it, a guard is at the center of a centripetally configured prison building where he can watch every corner of the cells. The greatest effect of such a surveillance, total and continuous, is that the surveilled is in "a state of conscious and permanent visibility that assures the automatic functioning of power (…), the surveillance is permanent in its effects, even if it is discontinuous in its action" (p. 201). More than the kind and amount of information exposed, the main issue of a state-run mass surveillance is its conditioning people's psyche and denigration of freedom. The gravest damage inflicted by state-backed mass surveillance of ordinary people is a devaluation of virtue-oriented axiology of a meritocratic civilization in the name of security and, not without paradox, freedom.

5.6.5 Censorship

Censorship relies on surveillance but its modus operandi is not necessarily knowledge theft. Instead, it interferes with knowledge transfer. Censorship occurs in public places and spaces where people are exposed to information/knowledge: Media, books, school textbooks and the Internet. There is an array of modalities, from self-censorship to state-backed Internet firewalls through the cancellation of publication licenses yet, ultimately, all acts of censorship interfere with access to knowledge and freedom of expression.

The dual-right of access to knowledge and freedom of expression was unknown to Asia until the twentieth century. Even in the West, the assurance of not getting beheaded by a monarch after a dissenting speech was legally protected in the seventeenth Century. It is not far fetching that freedom of expression is a cultural and legal breakthrough of civilizations. John Milton, English scholar and poet, in his 1644 *Areopagitica* speech to the Parliament of England opposing licensing and censorship, submitted that freedom of speech is a multi-faceted right, which includes: (1) the right to seek information and ideas; (2) right to receive information and ideas; and, (3) right to impart information and ideas (Milton & Sabine, 1951). According to George Sabine, the key principle of *Areopagitica* was the "right and also the duty of every intelligent man to know the grounds and take responsibility for his beliefs and actions" (Milton & Sabine, 1951, p. ix). Milton's point was that, if a text is to be rejected, it should first be examined, refuted, and condemned rather

than prohibited before its ideas have even been expressed (Milton & Sabine, 1951). Milton did not succeed in convincing his parliament. Yet, the 1688 *Bill of Rights*, one of the basic documents of English constitutional law, documented the freedom of speech in parliament, and it is still in effect in the form of the modern parliamentary privilege (Bill of Rights, 1688).

Back to the problem of censorship, in the Internet in particular, we need to define what we mean by *Net Neutrality*. The debate over net neutrality originated in the capitalist world when *Internet Service Providers* (ISPs) started joggling new business strategies to generate income, for instance, pay-to-access the Internet, section or the whole, and pay-for-content (Krämer et al., 2013). Net neutrality is a multifaceted discourse in defense for the Internet to remain accessible, open and free to the public. A perfect net neutrality is, therefore, an ideal because after years of debate, people still pay ISPs to use optical cables and servers, buy content, and pay service commission in retail hardware purchase. But, then, we have the autonomy of the state-run cyber-censorship.

The *Great Firewall* paired with the *Big Data* surveillance is one of, if not the most successful censorship system that controls access to knowledge and freedom of expression over the Internet. Apart from the concealment of a big chunk of foreign information, its success also has to do with exposure of individual particulars, for example, compulsory user registration with real identity. A common mode of this censorship is tracking politically sensitive ideas and opinion in the social media, and even deleting them with no warning. China recognizes no net neutrality since this ideal is at odds with everything that the Chinese state is trying to do in terms of control over its population and their knowledge. The *Great Firewall* is filtering the wealth of information on the Internet and has a significant impact on the information available to citizens, in particular, knowledge-intensive professionals. University academics in mainland China cannot access a wide range of academic papers in social sciences and humanities. The reduction of the variety of information and knowledge would ultimately disempower people to be innovative and competitive at the global stage.

A precedence in Asia was the isolation period of the Tokugawa Japan (1639–1853). While isolation allowed Japan to unite inwardly, they ended up woefully behind technological and scientific knowledge of the West. The ensuing Meiji restoration pushed Japan to imitate European geopolitics of colonialism cum militarism, which eventually ruined them. In striking contrast with Den Xiaoping's doctrine of openness and low profile (Wang, 2014), China has lately been regressing into self-isolation with undiplomatic assertiveness, inward and outward censorship, and aggressive territorial disputes. The more China self-ostracize, the more it will engage in illegal knowledge transfer.

5.6.6 Sabotage

Another category of GPK is *sabotage*, that is, "any disabling damage deliberately inflicted, especially that carried out clandestinely in order to disrupt the economic or military resources" (OED, 2020). The goal of knowledge sabotage is neither spying nor getting hold of valuable/useful information. Instead, it aims to destroy knowledge held by power adversaries and ideological antagonists.

Sabotage is the most likely method to undermine knowledge and information in international confrontations. Future military confrontations and battlefields will mostly be online; its casualties counted in Gigabytes-cash; and, its main weapon, hacking. In this scenario, the likely victor would be China by the sheer number of hackers and number of cyber-attacks. China is today the largest cyber-attacking country with about 27% of all cyber-attacks directly from China and up to 41% if redirected attacks were counted (Baig, 2017). China followed by the US with about 17%, Turkey 10%, Brazil 8% and Russia 5% with the American cyber-attacks receiving an honorable mention for sophistication (Baig, 2017).

Finally, a new front of international sabotage of knowledge is of an anarchic kind. Hedonistic motivation increasingly underlies many acts of sabotage of knowledge as many perpetrators inflict damage out of pleasure, thrill, catharsis or self-assertiveness.

5.7 Discussion and Conclusion

We are experiencing a sizable de-globalization effect of the COVID-19 pandemic with the rise of a distilled form of homophobia, that is, the fear of human beings for sheer fact of being human. The pandemic also reverberates long-standing injustice such as racism, gender bias and core-periphery marginalization. From the economics of lockdown to vaccine technology, knowledge has proven to be, once more, the core of the pandemic-related challenges. Geopolitics of knowledge is real, intense and of the highest relevance because of the social imagery and discourse of knowledge economy meshed with the imperatives of knowledge as power and the dread of relegation to the wrong side of the master-slave dialectics (Hegel & Baillie, 1807/1949).

A differential analysis of knowledge production and knowledge transfer—two faces—provides important insights into global geopolitics. About the knowledge production, we witness a significant decline in the production of 'narrative knowledge' (Lyotard, 1979/1984) but not necessarily due to a postmodern incredulity toward metanarratives (Park, 2018). Instead, the decline of 'narrative knowledge' might have more to do with the rise of commercially valuable 'scientific knowledge' (Lyotard, 1979/1984) amidst globalization, and, hence, sponsored and promoted by states and industries.

As it transpires in the field of postcolonial studies, scholars in political philosophy/science usually pay attention to the production process of knowledge and its essential characteristics. I submit that instead of such a static state of knowledge, the inquiry into geopolitics should pay more attention to the phenomena of 'knowledge in motion' such as transfer, dissemination, pedagogy, indoctrination, theft, espionage, surveillance and censorship.

There is neither better nor more current example of geopolitical dynamics of knowledge than the ongoing Sino-American tensions. We witness a quickly escalating *decoupling*[3] in trade, technology, diplomacy, military, and the Internet. The strongest and the most consistent *casus belli* of this transpacific 'Cold War II' is a systematic and persistent knowledge theft and espionage. This *casus belli* is, of course, from the perspective of the hegemonic discourse of the *America First*, which is manifestly different from Chinese civilization's emperor-subject hierarchy, power legitimization construct, and the idea of what knowledge is and should be for no less hegemonic discourse of *The Chinese Dream*. In the Chinese civilization, knowledge transfer has usually been speculated upon from the perspective of an instructor-learner hierarchy and the moral excellence of the learner (Park, 2016), while it assigns little or no weight to the principles of honoring contracts, separation of powers, rights and duties.

However, there is also a sizable similarity between the two civilizations entangled in the Sino-American geopolitics of knowledge—an avidity for wider recognition and legitimation of power. Jean-François Lyotard foretold that the main problem of knowledge in the late (post)modernity is the *legitimation by power* in the post-industrial and technologically able societies (1979/1984, p. 47):

> This is how legitimation by power takes shape. Power is not only good performativity, but also effective verification and good verdicts. It legitimates science and the law on the basis of their efficiency, (…) thus the growth of power, and its self-legitimation, are now taking the route of data storage and accessibility, and the operativity of information.

A decade later, towards the end of his career, Lyotard (1988/1991) argued that the discourse of development is the dominant ideology of our time. 'Development' is a *quasi-metaphysics* that needs no finality and it is "not attached to an Idea, like that of the emancipation of reason and of human freedoms" (p. 7), hence, the metaphysics of development is rather inhuman. Scientific and technological knowledge as well as philosophical knowledge only substantiates the 'discourse of development, which is used in turn by those in authority and power to legitimate their efficiency. Technology and the new media exert influence on the discourse of development through delocalization and detemporalization of cultures, hence, technological revolutions allow industries to spread across civilizations (Lyotard, 1988/1991). However, in geopolitics, technological revolutions also play a subversive role, that of undermining, sabotaging and pillaging industries, knowledge and power.

[3] Decoupling: "Separation of previously linked systems so that they may operate independently" (CED, 2012)

The subversive power of technology-mediated knowledge is accurately reflected in the momentous development and enthusiasm for the *Big Data.* Beyond a mere repository of mega-data, Big Data entails people's capabilities to transform data corpus into information and knowledge, then mobilize it purposefully. In research, with the analysis of large-scale data with *ad hoc* statistical models such as multi-level analysis, path analysis and latent cluster analysis, Big Data is a robust inductive instrument to validate researchers' hypothesis (Park, 2019). Big Data legitimates scientific knowledge as Lyotard argued (1979/1984). However, in a double-edge sword fashion, Big Data is also used for the legitimation of geopolitics at the service of concealing and exposing specific knowledge at the convenience of power holders.

"The sovereignty lieth hid in knowledge" remarked Francis Bacon in the early modern globalization (1597/1825, p. 255). Today, as it was during his time, sovereignty of individuals, groups and nation-states lies in the capacity and ability in the production and administration of knowledge. Knowledge has been not only power but also the main currency of civilizations and epochs. Knowledge continues to be both the goal and the means to hold and sustain power in global geopolitics. *Geopolitics of knowledge* is, thus, the political dynamics for knowledge and through knowledge among people in different geophysical places and discursive spaces.

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Chapter 6
Rise of Asia, Geopolitical Shifts and Higher Education

Fazal Rizvi

6.1 Introduction

Over the past three decades, systems of higher education around the world have undergone major changes. The ways in which higher education institutions (HEIs) are now governed have been radically transformed. The role of the state in funding higher education has become diminished, with non-public sources, including student tuition, becoming dominant. The core principles of the New Public Management (NPM) have redefined the ways in which academic work is now organized and coordinated, with new regimes of accountability. The values of the market have now begun to define approaches to teaching and learning, as well as the research themes that are given priority. The idea of education for its own sake has been marginalised, as its commercial outcomes are given precedence. At the same time, the number of students attending HEIs has grown rapidly and has more than doubled since the beginning of this century. This has transformed the demographic landscape of campuses, making diversity ubiquitous, giving rise to a new politics of difference that HEIs can no longer ignore. Nor can they overlook the growing backlash against equity initiatives.

These changes are historic, and have seemingly become entrenched in our imagination regarding the purposes and governance of higher education. Many critical scholars have attempted to understand this historical transformation, pointing to such factors as the emergence of Knowledge capitalism (Peters, 2013), the changing nature of work and labour relations (Brown & Lauder, 2016), and more broadly the impact of global processes and technological innovations. In this paper, I want to

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suggest that, along with these factors, the economic and political rise of Asia has also played a highly consequential role in reshaping the global architecture of higher education over the past three decades. I want to show how the rise of Asia, and the geopolitical shifts to which it has given rise, has affected the ways in which systems of higher education are now constituted, both within Asia and elsewhere, not only through policies of internationalization but also through the ways in which knowledge is now created, transmitted and utilized both within and across national borders.

6.2 Understanding Geopolitics

To appreciate how the economic and political rise of Asia has transformed the geopolitics of the world, and how HEIs are embedded within the dynamics of geopolitical shifts, it is important to begin with the idea of geopolitics. Dodds (2019) has argued that geopolitics is a slippery and highly contested concept: it refers both to a set of practices and institutional arrangements as well as various discursive constructions. At its core however is the premise that geography plays an important role not only in determining the great power politics of international relations but also in shaping the conduct of citizens, corporations, international bodies, social movements, governments, as well as institutions.

The idea of geopolitics thus suggests that the connections between place, the state and politics are affected by geographical arrangements, such as boundaries, coalitions, spatial networks, natural resources, and mobilities. These arrangements have the potential to redefine the ways in which political power is exercised, enforced or undermined at both global and local levels. According to Dodds (2019), any attempt to understand geopolitics involves three basic concerns: how questions of influence and power are shaped by spatial considerations; how geographical frames are helpful in making sense of global changes; and how this understanding can provide insights into the future behaviours of states, and their likely impact on individuals and institutions.

Traditionally, these concerns have been addressed through a realist lens (Dalby, 2013). The realist approach to geopolitics assumes that the relations between nation-states are largely anarchical, since there is no world government capable of restricting their actions. Hence, self-interest often drives the exercise of power in international relations, with nation-states as primary actors. The core function of nation-states is to provide security, and protect the domestic space and its citizens from the threat of the chaotic international. In this way, realism presupposes a binary between the *inside* (domestic, state) and the *outside* (chaotic, international). It also assumes the relationship between states to be inherently asymmetrical. It characterizes a stable global political space to be one in which chaos and anarchy is brought under a degree of control, either through various forms of strategic agreements between nations or through the dominance of some nations over others.

The critics of this approach (for example, Sharp, 2009) argue that the realist understanding of geopolitics over-states the extent of conflict and competition, and that the interstate system displays equally a capacity to collaborate, negotiate international law and work through intergovernmental bodies such as the European Union. Without denying the importance of nation-states, they insist moreover that nation-states are not the only actors in the configuration of geopolitics. The critical reading of geopolitics refuses to see the world *as it supposedly is*, but highlights instead the need to examine the relationship between geography and politics as ideologically constructed, 'imbued with social and cultural meaning' (Dodds, 2019, p. 34). It regards the relationship between place and politics as always contingent, complex and contextually determined. The critical approach also recognizes, in a manner that realism does not, "the everyday experiences of people and the strategies they have to adopt in order to cope with the geo-political and geo-economic processes as fundamentally varied" (p. 36), subject to interpretations of the dynamic shifts in international relations.

From this critical perspective, we might ask how geopolitical shifts have historically affected the ways in which systems of higher education are organized and changed. We might begin by noting that, before the Second World War, the spatial politics of colonialism largely created and fashioned the modern systems of higher education, as well as the relationship between them. The colonial powers, such as Britain and France, thus forged the character of HEIs in the lands they occupied. These HEIs operated within the registers of the geopolitical imagination of the colonizers. The colonial curriculum and pedagogic approaches were designed mostly to serve the empires, producing subjects that were loyal to their interests. Conversely, HEIs in Europe created and provided students knowledge of the colonialized world that was invariably articulated in Orientalist terms (Said, 1983).

As various colonies began to gain political independence after the Second World War, the geopolitics of the world shifted markedly. Yet most of the colonial arrangements remained persistent, despite attempts to cultivate new nationalist forms (Fanon, 1967). This persistence was partly due to the failure of the decolonized states to imagine new ways of thinking about the nature of knowledge and the role of their own HEIs played in creating and transmitting it. The lack of resources also led them to turn to the economically developed countries, their former colonizers, for aid and development assistance to expand their systems of higher education, in an effort to create a knowledge and skills base necessary to realize their nationalist aspirations.

The developed nations in turn often portrayed foreign aid as their moral responsibility. Strategically however foreign aid was always a way of extending their political influence and commercial interests internationally. Additionally, this ideology of 'developmentalism' (Escobar, 1995) played an important role in the machinations of the Cold War, with higher education becoming aligned to the competing geopolitical interests. Both Soviet Union and the United States, for example, sought to extend their geopolitical influence through scholarship programs offered to students in the developing countries, supposedly to prepare them to meet the requirements of national economic development (De Wit & Merkx, 2012).

Since the end of the Cold War, this understanding of development persists to an extent, but is now tied to a view of geopolitics that has increasingly been shaped by modes of thinking associated with ideologies of free markets and liberal democracy (Roberts et al., 2003). The neoliberal understanding of globalization has encouraged a new kind of political imagination that does not quite abandon the ideas of international cooperation and development assistance, but augments them with perceptions of inter-state relations couched in commercial terms (Steger, 2017). This imaginary highlights the benefits that can be derived from a global interconnected market economy. It is underpinned by organizational reforms such as globally-stretched production, outsourcing, intercompany business, strategic alliances, clustering and diversification and technological innovations especially in the areas of information, communication and transport. It promotes the formation of transnational networks to boost the production and distribution of goods and services, leading to the expansion of the movement of capital, goods, services and people, and the rapid development of high information technologies, telecommunication networks and intellectual capital (Rizvi & Lingard, 2010).

Over the past three decades, these market ideologies have arguably become hegemonic, influencing almost all areas of human activity, including higher education. With the crisis of socialism on a global scale, there has been little competition to these ideologies. At the same time, intergovernmental organizations, global corporations and other non-state actors have become highly influential. Around the turn of the century, the World Trade Organization, for example, negotiated rules to govern patterns of international trade, in goods and services alike (Robertson et al., 2002), in an attempt to embed competition in most spheres of life. The World Bank has become highly effective in persuading nation-states to adopt policies consistent with neoliberal precepts. Global corporations are no longer reluctant to steer national policies as basic conditions under which foreign direct investments are made (Dicken, 2007). Non-state actors such as foundations and think tanks are now major carriers in the global circulation of neoliberal sentiments. These shifts have reconstituted the geopolitical space within which the nation-states now relate to each other, contributing to massive changes in almost all areas of social and economic relations in every region of the world.

6.3 Asia Rising

Nowhere has the impact of these changes been more profound than in Asia. Arguably, countries of East and Southeast Asia have been the major beneficiaries of the processes of economic globalization. In recent decades, the rates of economic growth in Asia have been historically unprecedented. Since early 1990s, the growth rates in Asia have, for example, averaged over 5.5% per year in per capita terms (Khanna, 2019), despite blips such as the Asian and Global Financial crises in 1997 and 2008 respectively. Asia has become the largest manufacturer in the world, with its global output growing from 29% in 1990 to 45% in 2009, and now over 50%. Its

share of the global economy in purchasing power parity terms rose from 21% in 2008 to 38% in 2014 (Pieterse, 2018). Asia is now also the world's largest consumer market. Seven of the top ten countries in terms of foreign reserve come from Asia, with Hong Kong, Tokyo, Singapore, Shanghai, and Mumbai becoming key international financial centres. Asia is now also the net capital exporter while remaining the largest recipient of foreign investment.

The drivers of the rapid economic growth in Asia, the quality of this growth, and its sustainability have been widely debated, as indeed has been the significance of these changes in reshaping geopolitics, from a wide variety of ideological perspectives. Asia's economic success, it has been argued, lies in the fact that most that Asian countries are sites of cheaper labour, as well as a disciplined and largely compliant workforce, borne out of their civilizational traditions (Jacques, 2009). It is also suggested that Asian countries have benefitted greatly from the preparedness to welcome foreign direct investment under conditions that have often been modified to suit the interests of global capitalism (Dicken, 2007). Many of these conditions are associated with structural adjustment programs, which include the demand to reduce the role of the state in global trade, permitting easier flows of capital, goods and people across national borders. Throughout Asia, Special Economic Zones have facilitated production processes under terms that favour global capital. In his defence of economic globalization, Bhagwati (2007) has argued the economic rise of Asia could not have been possible without market-friendly policies that resulted in radical changes in the role of the state in economic exchange. In this way, the developmental states in Asia, especially the so-called 'Asia Tigers', anticipated the market.

Yet these policies have not benefitted everyone in Asia. As Pieterse (2018) has argued, while the centre of global economic activity has shifted rapidly towards Asia in quantitative terms, serious questions need to be asked about the quality of economic growth in Asia. Also important are the questions as to whether this growth is sustainable, broad-based, inclusive and contributes sufficiently to the eradication of poverty. Pieterse (2018, p. 62) maintains that, "Asia is rising but Asian wellbeing is not. The quality and quantity of growth are out of synch. The high and rising Gini index in most Asian countries signal a growth path short of social development that is not sustainable." There are similarly questions about the sustainability of China's economic model, in particular, which is based on the assumptions of continuing economic size and export volume concentrated heavily on the US consumer market. China's environmental problems may also be reaching a stage where they could constrain its growth rates, upon which the Chinese state's political legitimacy is clearly based.

Despite these doubts about the nature and sustainability of the economic rise of Asia, what is beyond doubt is that celebratory discourses of 'Asia Rising' and the 'Asian Century' have now become common, both within Asia and elsewhere. For example, in his recent book, Khanna (2019) insists that the 'global future is Asian'. He argues that just as 'in the 19th century, the world was Europeanised. In the 20th century, it was Americanised. Now, in the 21st century, the world is being Asianised' (p. 1). Such discourses have led many scholars to rethink the nature of

contemporary geopolitics, with widely differing analytical conclusions and political suggestions.

According to Jacques (2009), for example, the Asian century will be led by China. The dynamism of the Chinese economy and its civilizational ambitions are such that China will herald 'the end of the western world and the birth of a new global order' (p. 2). China's rapidly increasing economic strength and prowess will enable it to expand its clout in world affairs, resulting in a shift of power from the West to the East. In this way, Jacques insists that China's rise is not only economic, but also political and cultural, with the potential to transform the geopolitics of the world, through such initiative as the Belt and Road (Vitcheck, 2019).

Mahbubani's (2020) account of the global rise of China is in many ways similar, but focuses instead on the geopolitical contest between China and the US. He argues that for the foreseeable future, China and the US will remain world powers without any serious rivals, and will look at each other with growing suspicion. He suggests however that China may already be winning this geopolitical contest, and national governments around the world will need to consider how they position themselves in it. Success in the new geopolitical order will require managing the contested space between China and the US.

In contrast with the China-centric analyses of both Jacques and Mahbubani, Khanna (2019) suggests that the rise of Asia is a geopolitical phenomenon that is far greater than just China: it involves a new Asian system that is 'multi-civilizational', linking the five billion people on the Asian continent through trade, finance, infrastructure, and diplomatic networks that together represent 40 % of global GDP, and is growing rapidly. China has clearly taken a lead through its various policy initiatives, but Khanna insists, it will not lead alone. Rather, "Asia is rapidly returning to the centuries-old patterns of commerce, conflict, and cultural exchange that thrived long before European colonialism and American dominance" (Khanna, 2019, p. 2). While China is clearly a major player in this emerging Asian system, and has pursued aggressive foreign policies in the region, it is misleading, Khanna argues, to assume that it will dominate the rest of Asia, with little resistance from its neighbours.

Another perspective on the rise of Asia rejects the assumption that implies an inevitable decline of the Western values and practices. It suggests that through the histories of colonialism and neoliberal globalization, the values of capitalism and market economy have already become embedded in the political mainstream of most Asian countries (Delanty, 2006). Even China has endorsed an idea of democracy, even if it is assumed to have 'Chinese characteristics' (Harvey, 2005). Many of the neoliberal economic ideas have also been embraced by China, even as its understanding of the markets are couched to favour its authoritarian system of government. China's approach to the markets is thus heavily regulated and controlled by its state institutions, including higher education. The so-called 'Asian values', this perspective suggests, are not entirely incompatible with the fundamentals in the Western value system. While it is true that the rise of Asia will lead to the redistribution of power and resources, this need not imply the fundamental splitting of the world community. Rather, the rise of Asia may ideally result in growing levels of intercultural exchange, hybridization of cultures and cultural creativity.

6.4 Global Markets in Higher Education

The discussion in the previous section indicates that there is no general agreement about the economic and political rise of Asia: how it is transforming the geopolitics of the world, and what implications this transformation has for the development of policy, at both national and institutional levels. Within Asia, economic growth has clearly transformed Asian societies. Its institutions, including systems of higher education, have expanded rapidly, with spectacular rise in gross enrolment rates (GER) (UIS, 2014). As Asian countries are increasingly integrated within the global economy, they have taken advantage of the global flows of capital and the globally distributed modes of production. This has created a strong middle class, which widely perceives higher levels of education to be a good investment in protecting and extending economic gains and social status. To meet the growing demand, a large number of new universities have emerged, while the competition for places in the region's older HEIs has intensified.

At the same time, governments throughout Asia have allocated large sums of public money to higher education, allowed greater private investment in the development of new universities and programs, and more importantly encouraged the public to view higher education as an investment in human capital, which will bring good returns to both individuals and the nation. A strong rhetoric has emerged that views higher education as necessary to meet the requirements of the globalizing economy. Effective participation in this economy, it is assumed, demands a steady supply of human resources with knowledge and skills to carry out the complex tasks inherent within the operations of the global supply chains.

In this way, in Asia as elsewhere, the expansion of higher education is considered necessary to participate in the global economy and hence realize the goals of national economic development (Slaughter & Rhoades, 2009). In line with this thinking, Asian systems of higher education have worked hard towards the renewal and reform of their policies, programs and practices, not only to bring about system efficiency but also ensure greater relevance and effectiveness. HEIs in Asia have, for example, sought to align their curriculum to the shifting requirements of the global labor market, as well as the changing national priorities. Furthermore, a strong discourse of quality improvement can be found throughout Asia, with a desire to realize the world's best practices, and to 'catch up' with the West's leading universities.

Systems of higher education beyond Asia are, of course, acutely aware of these changes in most parts of Asia. The response to this awareness in 'Western' countries has come in two contrasting ways. On the one hand, there is a great deal of admiration for what Asia has been able to achieve in a relatively short period of time (see for example, Henry Report, 2012). On the other hand, Western perceptions of the rise of Asia, and Asian systems of higher education, are located within a language of anxiety, with an assumption that the rise of the 'new East' is a 'powerfully disruptive force' that is likely to have 'unexpected economic, political, and social outcomes' (Simpfendorfer, 2014, p. 9).

At the same time, the rise of Asia is viewed by the 'developed' systems of higher education as an opportunity. In most western countries, HEIs have hence developed policies and programs of internationalization that invariably refer to the challenges and opportunities associated with of a globally interconnected world. They thus summon multiple and shifting social, political, cultural and economic rationales of international higher education (Knight, 2004). The recent discourses of international higher education pay particular attention to the rise of an Asian middle class, financially capable of purchasing education in a global market. According to Kharas (2017), globally, there were about 3.2 billion people in the middle class at the end of 2016, with an overwhelming majority of new entrants into the middle class living in Asia, with the capacity to pay for international higher education, as well as the costs of living abroad.

These numbers alone however do not fully reveal what being middle class in Asia means *qualitatively*, in aspirational terms of life styles, life chances and life plans. An education abroad ranks very highly among the Asian middle class, as a presumed source of capital accumulation. Not only is it assumed to improve life chances but it is also treated as a marker of social status and prestige (Ong, 2006). This is evident in the fact that throughout Asia the number of elite international schools has grown rapidly, claiming to provide students a good preparation for education in a western country. These colonial perceptions of western higher education are particularly common among Asia's middle class (Kenway et al., 2017). They have given rise to a large industry that can be found in the capital cities of Asia to broker student mobility from a local elite school to a university in the West.

Significantly moreover, these perceptions have also become part of the strategic calculations of HEIs in countries like Australia, the UK, Canada and the United States, as they consider the commercial potential of higher education, within the context of declining public funds they are now allocated. There has thus been a shift from an older 'developmentalist' rationales for internationalization, which stressed the role of higher education in working towards modernization, social and cultural development, capacity-building, and in promoting international understanding and intercultural relations, to a view of international education now embedded within a broader market rationality (Rizvi, 2020). At the institutional level, this rationality is concerned with revenue generation, building institutional profile and reputation, diversifying the campus, and, in relation to curriculum, developing human resources for a globalizing economy.

Increasingly, higher education in now viewed as an export industry in which universities compete for students, funds and status. As an industry, it is now governed through an administrative technology, with rules of operation based on an expertise that incorporates knowledge of market segments and specificities, as well as a symbolic language about the distinctive benefits of internationalization. There are also targeted advertising programs conducted not only through the media, and through educational expos and market-oriented conferences. While other aspects of internationalization, such as teaching and learning, are not entirely discounted, market concerns disproportionally attract the attention of senior HEI administrators, as they struggle to balance their budgets. The success of HEIs is now often measured

in terms of the number of fee-paying international students they are able to recruit. This is what various global ranking systems measure and governments celebrate.

This market perspective on internationalization has transformed the relationship between the state and higher education more generally. A commitment to public values has been 'crowded out' (Sandel, 2012). With international student tuition becoming a major source of income, governments no longer feel inclined to provide HEIs the public funds they need. In Australia, for example, the success that its HEIs have had in recruiting full fee-paying international students in large numbers has emboldened the Australian governments to promote other market-oriented policies. Practices of 'endogenous privatization' (Ball, 2012) appear to have become a permanent feature of public higher education in most Western countries. More generally, NPM ideas, techniques and practices borrowed from the corporate sector are widely imported in an effort to make public HEIs more business-like.

A highly innovative system of recruitment has been cultivated in the use of local agents throughout Asia, who are often the first point of contact between potential students and a university abroad. Also established is a vast array of transnational programs. In the image of other service industries, various franchise arrangements are also developed, with varying degrees of success (McBurnie & Ziguras, 2006). In promoting such 'export' practices, governments play a major role in helping HEIs to craft agreements to provide a range of educational services beyond their national border. To extend their market reach, HEIs in Western countries also enter into complex articulation and twinning arrangements with educational providers in Asia to ensure a steady flow of students to their home campuses. The global architecture of higher education has thus been transformed.

6.5 Competition and Collaboration

This architecture embodies a culture of competition across HEIs and national systems, involving commercial arrangements regarding trade in educational services (Marginson, 2006). To manage and regulate competition, attempts have been made to develop a set of rules for the global trade in education. In the early 2000s, these efforts were led by international organisations, such as the World Trade Organization (WTO). Its General Agreement on Trade in Services (GATS) is a multilateral agreement, which encourages WTO members to accept voluntary liberalisation of trade in services. Although GATS does not have strong compliance mechanisms, its ideological import cannot be overlooked. It views higher education as a commodity, subject to commercial competition in much the same way as other goods and services. It thus helps to implant and legitimize the neoliberal shifts in higher education. As Collins (2007, p. 283) has noted: "language and text can create, shift, or maintain ideologies. In the case of GATS, the ideology reflects a new imperialism where more powerful countries retain developing countries as markets in which they continue to rule intellectually".

The Western systems of higher education are understandably sensitive to such perceptions, so have sought to forge a policy discourse that not only promotes competition for the globally mobile students, but also invokes opportunities in interstate collaboration, particularly in the area of research (Rizvi & Nadarajah, 2019). There is of course nothing new about transnational research collaborations in higher education. Academies have always cooperated with scholars from abroad to exchange information and collaborate in the production of new knowledge. In the 1950s, however, scholarly exchange acquired a new purpose, of serving the strategic interests of the developed countries within the broader politics of the Cold War. Over the past three decades, however, the rationales for forging transnational research collaborations across national boundaries have expanded greatly, beyond the academic interests of individual researchers. For individual researchers, collaborations continue to represent an opportunity to access expertise, equipment, datasets and other resources that may not be available within the nations, enabling them to tap into global networks. Collaborations enable scholars to stay in touch with knowledge being developed in other parts of the world, and align their work with high status institutions and research teams, resulting in the likelihood of publishing their research in high impact journals. For institutions of higher education, however, broader considerations are at play, including the ability to meet the infrastructure needs of staff, especially in capital-intensive fields, to support entry into new fields of research, benchmark the performance of staff, and help determine what is needed to enhance global reputation.

National governments have additional reasons for advocating transnational research collaborations, often linked to the objectives of trade and modern public diplomacy. In recent decades, governments have recognized that research is a globally interconnected endeavour. They thus view research collaborations as a significant form of institutional and people-to-people connectivity between countries. It is suggested, for example, that when "researchers work together across national boundaries, they do not only contribute to the global production of knowledge; they also play a part in sustaining a culture of cooperation that contributes to more harmonious international relations" (Ang et al., 2015, p. 43). In this way, intercultural, commercial, strategic and diplomatic interests of nations are fused together in a new complex combination of rationales for promoting research collaborations.

The language of collaborations highlights what Yonchai Benkler (2006) refers to 'the wealth of networks'. Benkler claims that nation-states are no longer the only source of knowledge creation and economic productivity, but that it is the transnational networks that have the potential to generate commercially useful knowledge. With the radical changes in information technologies, Benkler insists, we now stand at a key moment of transition. Globalization, he suggests, implies a new mode of social production that is reshaping markets, while at the same time creating new opportunities to enhance individual freedom, cultural diversity, political discourse, and justice. This line of thinking was first proposed two decades ago by Castells (1996), who argued that the main mode of social organization in politics, economy and civil society is shifting from relatively stable hierarchy, represented by the nation-states, to a more fluid networked form. It has now become mainstreamed.

Systems of higher education around the world have increasingly embraced this thinking to encourage and reward transnational research projects, especially if they produce commercial outcomes. They highlight the emergence of a globally distributive system of knowledge development and dissemination that needs to be regularised through on-going and symmetrical transnational links. They promote the need to create research networks, as a way of sharing income, resources and effort. Early examples of such networks included *Universitas 21* and Global Universities Network (GUN), which have now lost their appeal, replaced by new less formal modalities of transnational collaborations. These initiatives are moreover supported by intergovernmental organizations. The OECD (2020), for example, hosts and coordinates a Research Collaborative of governments, research institutions and international finance institutions, the goal of which is "to partner and share best available data, expertise and information to advance policy-relevant research in a comprehensive and timely manner" (OECD, 2020, p. 1). The European Union has developed a robust regional approach to research collaboration through the creation of its European Research Area that seeks to integrate the scientific resources of the European Union.

However, the European approach to research collaboration is not confined to Europe. Recognising the rapid growth of research productivity in many parts of Asia, it now advocates cooperative links with Asian HEIs. The regular meetings of the Asia-Europe Meeting (ASEM), for example, stimulate dialogues about the cooperation process, addressing such issues as environment, energy, climate change, the green economy, and higher education (Lee & Healy, 2006). A program called 'EURAXESS-ASEAN', for example, links researchers in Southeast Asia with Europe, through sharing of information on research funding, research careers and collaboration opportunities, supporting projects of mutual interest (Rizvi, 2018).

As HEIs in East Asia become major global players in STEM research, leading universities the West, including those in the United States, have attempted to capitalize on opportunities inherent in the attempts by Asian countries to become major global players in research and development. Few countries have been as aggressive in developing strategic links with Asian systems of higher education as Australia. In 2012, a major report in Australia, argued that since twenty-first century is likely to be an 'Asian century', Australian people and institutions had to recognize the implications of this fact for their future prosperity. It suggested that: "The Asian Century is an Australian opportunity. As the global centre of gravity shifts to our region, the tyranny of distance is being replaced by the prospects of proximity" (Henry Report, 2012, p. 1).

The Australian government has therefore invested heavily in programs such as the Australia-India Strategic Research Fund (AISRF) and the Australia China Science and Research Fund (ACSRF), designed to maintain and strengthen "research relationships with high performing nations that enhance our performance" and collaborate with Asian countries that "have complementary research priorities and challenges" (Barlow, 2014, p. 13). More broadly, the Australian government's National Strategy for International Education 2025 aims "to strengthen partnerships at home and abroad, enhance student and faculty mobility, and position Australian

education institutions to compete globally by promoting excellence and embracing opportunities to expand international education" (p. 1). Its industry-oriented National Innovation and Science Agenda incorporates strategies that also aim to facilitate increased international research collaboration and partnerships with industry.

6.6 Covid-19, Geopolitical Tensions and Higher Education

Towards the end of 2019, it might have been possible to provide a relatively settled portrayal of the global architecture of higher education. It might have been argued, for example, the ideas of globalization and market economy had transformed the geopolitics of the world, and that this fact could no longer be overlooked by the policies and practices of HEIs, even if higher education also served a range of other nationally-specific purposes, such as political socialization. The continuing growth in the number of globally mobile of students and scholars might have been taken for granted, making HEIs in Western countries in particular heavily reliant on the income generated from student tuition, especially from students recruited from an economically rising middle class in Asia. Indeed, the assumptions regarding the economic and political rise of Asia were embedded within the planning processes and operational practices of internationalization of higher education, resting upon a particular understanding of the geopolitical shifts that had taken place since the end of the Cold War. These developments did not quite abandon the ethical and cultural purposes of higher education, but couched them within a broader commercial logic. Even the objectives of research collaborations were located within a global system based on the assumptions of competition and strategic goals of public diplomacy.

Of course many of these developments were never universally embraced. Early in 2020, however, COVID-19 further unsettled many of these assumptions upon which they are based, disrupting many aspects of HEIs in western countries in particular, most notably how they should now to be funded; how students should be taught; and how buildings should be re-configured to ensure the safety of students, staff, and administrators. The pandemic has put severe financial strains on most HEIs, with international student markets no longer able to rescue them. It is now clear many HEIs in countries such as the UK and Australia had become excessively dependent on this source of income, particularly the students from the growing Asian middle class. When the pandemic hit, many of these students returned home, and some are unlikely to resume their studies internationally. Many HEIs are therefore no longer able to rely on the growth projections that they had made in the time of plenty to support their capital and human resources plans, as well as new initiatives. With government revenues also stretched, HEIs can also no longer expect public largesse to ensure their sustainability, let alone expand. Decline appears highly likely within the context of uncertainties.

Exactly how HEIs might manage decline remains to be seen, even if they have displayed remarkable capacity to adapt their curriculum and pedagogic practices to

the changing conditions. Both staff and students have, for example, embraced technological tools of teaching and learning at a speed that is truly extraordinary. Regrettably however, while the pandemic has created a space for innovation, this space has not been used widely to re-think online pedagogy, radically overhaul the nature of student engagement and student-teacher relations, reimagine the processes of knowledge ownership, creation, distribution and utilization, and re-conceptualize the idea of learning itself (Rizvi, 2020). HEIs have shown little evidence of realizing the enormous potential of the new technological tools of pedagogy, for establishing robust learning communities across national, cultural and political differences, for remaining Asia's contribution to the world.

Much of the debate within the systems of higher education that recruit large number of Asian students has revolved around questions of how to 'recover' the financial losses caused by Covid-19. This language of recovery focuses on arresting the decline in student numbers, expanding and diversifying the source countries, rethinking the technologies of student recruitment, meeting the needs of the returning student consumer, and putting pressure on the government to change the student visa conditions to make it easier for international students to return. What is overlooked is the possibility that the current business model of international education, based on neoliberal assumptions, may no longer be apt within the context of the geopolitics that has potentially been transformed by the Covid crisis. The pandemic has arguably revealed some of the deeper contradictions that underlie the neoliberal imaginary of globalization, as well as the current policies and practices of internationalization in higher education.

Most notably, the current narratives of internationalization of higher education define the dynamics and possibilities of global mobility of students, in terms that privilege the commercial, above the ethical and political. And yet the assumptions regarding the global mobility of students and scholars have been deeply unsettled by the pandemic. They have also highlighted the need to rethink the nature of the relationship between the public and private, the responsibilities of governments to support HEIs. They encourge transnational research collaborations between western and the rising Asias systems of higher education, but such collaborations are either exploitive of non-western traditions or else reproduce asymmetrical patterns of power. The growing geopolitical tensions, especially those involving China, are moreover shifting the grounds upon which the neoliberal imaginary of globalization is based and celebrated. The disputes over the origins of Covid-19, technology transfer, human rights and Hong Kong have led to international students from China in particular feeling less welcome and secure. They have also revealed further a more politically assertive China on the global stage, in a diverse range of activities including the production, dissemination and utilization of knowledge.

These tensions have potentially transformed the geopolitics of the world, and cannot be overlooked by systems of higher education everywhere. What needs to be realized is that the emerging geopolitics is characterised by multiple ties and interactions linking people and institutions across the borders of nation-states, defined by systems that demand reciprocity and mutual benefit. Anglo-American countries are no longer able to define the terms of economic, political and cultural exchange

unchallenged. In more recent years, academic cooperation across the emerging economies has been growing, challenging the hegemony of the Anglo-American view of internationalization of higher education. Within the emerging systems, new asymmetries of power are emerging, with China, for example, using higher education as an instrument of global influence (King, 2013). While HEIs in the English-speaking world continue to dominate, other centres of knowledge production, particularly in Asia, are emerging. On the world stage, many of these systems regard their cultural and epistemic heritage as equally vital, if not superior. If this is so then a new imaginary of globalization must consider the new possibilities of collaboration and networking among individuals and institutions dealing with knowledge production and dissemination, beyond the commerical.

The post-pandemic dynamics of higher education must challenge the asymmetrical power relations that have resulted in unidirectional flows of students, money and ideas–from the rest to the West. The changing geopolitics of the world thus demands new ways of thinking about internationalization of higher education, especially against a growing assertion of knowledge traditions other than those associated with colonial modernity (Stein, 2017) and western rationalism (Connell, 2007). At the same time, developments in technology have eroded to a considerable extent the distinction between knowledge production and dissemination and have given rise to new pedagogic possibilities of the ubiquitous social media and communication technologies. This has given rise to major shifts in youth cultures accompanied by new practices of global networking, thus transforming the ways in which internationalization of higher education might now be envisaged.

These and other developments have highlighted the importance of transnational collaborations in higher education, but not in terms that are predicated on the logic of educational markets. They suggest the possibilities of symmetrical transnational links inherent in the emerging distributive systems of knowledge development and dissemination. They indicate the need to create transnational bilateral and multilateral teaching and research networks among universities and industries, as a way of developing new modes of sharing income, resources and effort. This emphasis on transnational collaborations implies rethinking the nature and scope of higher education itself. This new perspective on internationalization demands re-examining the traditional curriculum, challenged by the claims of 'other' knowledge traditions, developing new pedagogies that are more responsive to recent innovations in social media and the ubiquitous technologies of communication. The pandemic and the geopolitical tensions that they have revealed may take a long time to be resolved, but they have provided us, as Arundhoti Roy (2020) has noted, with a new portal for imagining a new geopolitics of the world and of higher education.

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Chapter 7
Creative Tension of Sense and the Whole Approach to Knowledge and Practice

Dell Delambre

7.1 Introduction

Epistemology has an important role to play in discussion about the "new" Geopolitics of Knowledge. One reason is that the processes of construction and transmission of knowledge in the West are important for understanding both the problems of today's societies and the proposals for change. Within this Western model, the university has played a central role as one of the certifiers of valid and "true" knowledge. The debate about epistemology or epistemologies in a "new" Geopolitics of Knowledge can also contribute to epistemological debate taking place outside the specific area of the theory of science. This is important for the inclusion of traditions and communities that historically have not had their knowledge recognised, or whose knowledge traditions have been destroyed in the different colonization processes and their derivatives. Reflection is important within the "new" Geopolitics of Knowledge because it can build a dialogue between different epistemologies in different contexts. Certainly, one of the challenges is still to relativize the rigid limits that separate epistemology, ontology, and hermeneutics.

This discussion of a "new" Geopolitics of Knowledge is important not only for those countries that received knowledge according to the colonial model, but also for those colonizers that imposed it (Barreto & Sirvent, 2019). There is a strong criticism of the epistemologies that have sustained and continue to sustain the project of the development and expansion of Europe and the North Atlantic (Mignolo, 2000, 2011). This debate reveals how this project was built on the premise that there was always a "superior" who, directly or indirectly, should dominate the "inferior". The consequence was that knowledge located in European and North Atlantic

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thought took universal forms through cultural, political, intellectual, religious, industrial, economic, and technological expansion (Quijano, 2000).

In this context, the university has become one of the instruments for the institutionalization of this knowledge project, which separates the "small" from the "big" and the center from the periphery. Including epistemology in this discussion is crucial because, as several authors have shown, modernity needs to be thought from a paradigm other than the one that generated it (Santos, 2014). The process of building new knowledge paradigms should include epistemologies that were left out (Dussel, 2002, 2018). Eurocentric and American epistemologies shape economics, philosophy, theology, sociology, museology, education, psychology, and politics in a hegemonic way, thus excluding what is thought of as other. But the exclusion also happened on the inside, as is visible in the constant conflicts that result from the hegemonic model of transmission, production, and accessibility, which shows that exclusion also occurs in the tension between center and periphery within Europe and the United States. Several authors have sought to debate this issue and to offer alternatives (e.g. Boatcă, 2010; Jones, 2019). However, it can be said that there is a great complexity in translating such important reflections into practical projects. Currently, the production, validation, and transmission of knowledge is still highly dependent on the economic strength of a country's or region's center of power.

The theory of the "creative tension of sense" presented in this chapter was developed in my research as a way of mapping the "tensions of sense" that exist in all areas of knowledge and in society today. This tension of sense, it is argued, has as its central roots in the birth of the "new" world within the "old" world. As a result, all segments of society are impacted by these tensions brought about by change (referred to as tensions of change). The capacity to act in today's conditions of tension relates to the existence, or even the disappearance, of institutions and forms of knowledge.

The theory of the creative tension of sense shows the search to make sense of life within the tensions of paradigms. The search for sense is experienced differently in the tensions of change within Europe, North America, Latin America, Asia, and elsewhere. The theory of creative sense tension offers an epistemology that addresses tensions in the context where they arise.

A "new" Geopolitics of Knowledge, form this perspective, would necessarily be related to epistemological issues, which would foster a rethinking of the nature, production, and dissemination of knowledge at a global level (Mignolo, 2003). The various challenges of today's societies should also become challenges of the new Geopolitics of Knowledge. Western societies have several old demands within new realities, among them, technologies, digital transformation, scarcity of work, the role of social networks, artificial intelligence, climate change, sustainability, and the limits of growth, or concept of "degrowth" (Berry, 1999). There are also further tensions caused by the current Covid-19 pandemic, which has further revealed the profound weaknesses of the design of societies in various parts of the world.

What epistemologies can help to build the role of the "new" Geopolitics of Knowledge in this context of tensions? (Reiter, 2018) How can the "new" Geopolitics of Knowledge contribute to the discussion of the presence of different

epistemologies in higher education within the perspective of tensions? Perhaps, the challenge is not just to deconstruct, but above all to build new paths on the edge of the abyss. This is the tension presented by the birth of the new world within the old world.

The tension of the new within the old generates a search for sense. This also causes a tension in the being. It is the tension between the "weak self " and the "strong self ". It is the epistemological movement that takes place in paradigm transitions. For this reason, the theory of the creative tension of sense aims at the identification of tensions of sense, thus making possible the birth of the "new". The starting point is not a value judgment, even if it is always present. Rather, the starting point of the theory of the creative tension of sense is the perception and description of tensions in the context in which the search for the sense of life takes place because of the changes experienced. This process brings theory and practice closer together in the local context. This tension questions the validity of the new and the permanence of the old as a sense of existence—this is the epistemological stance of tension theory. The university, as one of the agents of the construction and systematization of (theories of) knowledge, also experiences this tension. For this reason, the university can be both the cause of the problem and one of the solutions by including new theories of knowledge based on historically silenced epistemologies.

The epistemology of the theory of the creative tension of sense always thinks theory and practice together. For this reason, a practical dimension of the theory of the creative tension of sense is central. The *Ganz-Methode*, or Whole approach to tension, was developed in my work with the WTS Coaching program. The WTS Coaching methodology was developed in the context of tension experiences used in the cases of individual development, local development through ecomuseums and the theater, business development, educational development through schools, institutional development, and sustainable development. These case studies took place in the city of Rio de Janeiro (Brazil) from 2013 to 2020. But the tension of sense is also within the development projects and Coaching models. They were created within the hegemological epistemology that is the cause, for example, of climate change on the planet and the tense relationship between metropolis and periphery. The WTS Coaching program is an attempt to create the practices of the "new" world in tension with the "old" world. Therefore, this program is the questioning of this hegemonic epistemology through the tension of models and the Whole-Transdisciplinary Sustainability, WTS. This questioning takes place in theory and in practice (Toit & Sim, 2010).

This chapter aims to present the theory of the creative tension of sense and how it can offer an epistemological contribution to rethink higher education in the content of the tension of the birth of the "new" world within the "old". The *first* part briefly presents a discussion of epistemology in the "new" Geopolitics of Knowledge and the tension in trying to conceptualize the limits of modernity. The *second* part deliberates on the tension between an ancient paradigm that has not yet died and the new one that has not yet been fully born. The *third* part presents the practical translation of the theory discussed here in the two steps of the *Ganz-Methode* in the

context of tensions. The first step is about the process of sustaining tensions in order to build the whole approach in motion. The whole is always in tension. The second step of the *Ganz-Methode* refers to how the whole approach to tensions leads to the discovery of *life power* and the sense of life values. The *fourth* and last part of the chapter suggests how it is possible to develop a practical coaching program built from the epistemology of tension and the *Ganz-Methode*. This program can be applied in universities and institutions that seek to face the tensions of the birth of the new world within the old world.

The following section discusses the tensions involved in conceptualizing the limits of modernity.

7.2 Tensions in Conceptualizing the Limits of Modernity

There is a plurality of conceptualizations of the limits of modernity, in several disciplinary fields. Some accounts have been developed in countries that have historically received the knowledge produced in Europe and the United States. The limits of modernity directly imply the tension and struggle of new epistemologies seeking academic validity (Santos, 2014). Many thinkers have constructed different concepts to understand the great changes in contemporary society (see for instance: Leff, 2014; Morin, 2014; Dussel, 2018). However, the issues raised demonstrate the limits of modernity. Their approach to the paradigm of society opens new possibilities to see the discontinuities between modernity and postmodernity (Delanty, 2000).

The exhaustion of the great models of knowledge of modernity is evident in the economy, in the concept of development, and in many other areas of society. The problem is not only in the search for meaning in peripheral countries seeking to build their own knowledge, but also within the countries that produced this knowledge and imposed it through processes of colonization. The tension of sense is implicitly and explicitly present in the discussion about the limits of modernity. Leff (2014, p. 88f.), for example, shows that the environmental crisis has revealed the limits of modernity's rationality:

> Beyond the epistemological controversies about the truth and objectivity of knowledge; beyond the problem of real representation through theory and Science the knowledge has turned against the world; it has interfered and dislocated it. Before emerging as a problem of knowledge in the field of epistemology, this crisis of modern rationality manifested itself in the sensitivity of poetry and philosophical thought. Yet, the critique of Enlightened reason and modernity which had been initiated by the critique of metaphysics (Nietzsche, Heidegger), critical rationalism (Adorno, Horkheimer, Marcuse), structuralist thought (Althusser, Focault, Lacan), and by the philosophy of postmodernism (Levinas, Deleuze, Guattari, Derrida), was not enough to convey the radicalism of the limits-law of nature against the ravings of economic rationality. This had to be shown in the reality of nature, outside the symbolic order, to do justice to reason. The environmental crisis irrupts at a time when the rationality of modernity translates into an anti-natura reason. This is not a functional or operative crisis of the prevailing economic rationality, but rather one of its foundations and ways of knowing the world. Environmental rationality thus emerges out of the

> questioning of the economization of the world, out of the overflow of the reifying rationality of modernity, out of the excesses of objectivist and utilitarian thought.

Leff (2014) continues to show the intrinsic relationship between environmental crisis and knowledge produced in modernity:

> The environmental crisis is a product of knowledge – be it true or false – about the real, about matter, about the world. It is a crisis of the ways of comprehending the world, since mankind makes its appearance as an animal inhabited by language which makes human history split from natural history, makes it a history of meaning and of the meaning assigned by the words to things, generating power strategies in theory and in knowledge that have disrupted the real to forge the modern world- system. (ibid., p. 89)

Although these critiques are important, I focus on presenting the tension between the new world growing within the old world. These new forms give sense to life, and provoke tensions both inside and outside the paradigm of modern rationality. This is the concept of the tension society.

An example of this tension may be the intense debate that seeks to conceptualize the present era. Several authors seek to identify whether we are in the crisis of modernity, the end of modernity, or postmodernity (Delanty, 2000). A conceptual definition that excludes other definitions is not enough to understand the major changes that impact knowledge, however. A possible approach is to analyze the new and old models of society together. These tension models are present in fields of academic knowledge, and in society more generally, as a search for sense. It is already possible to perceive elements of the creative tension of sense.

The environmental crisis reveals the tension of meaning in the project of society and the development of the hegemonic epistemology of modernity. The need to build Whole Sustainability [1] shows the exhaustion of this epistemic model (Delambre, 2014). There is a need to recognize and value other epistemologies in the world that propose an entire relationship of affective listening and listening in tension with nature and interpersonal relationships.

An example of this tension of sense occurs in the relationship between the residents of the favelas in Rio de Janeiro and the residents of the city. In the favela of Rocinha, the theater group "Bando Cultural Favelados da Rocinha" develops theater plays based on their pain. They tell their stories of the violence suffered by the

[1] Whole Sustainability is the application of Tension theory to the science and practice of sustainability. The Whole Sustainability concept questions the sustainability subject to the epistemology of the hegemonic development models. It is whole because it uses the Ganz-Method to foster the creation of sustainable projects for the "new" world. This sustainability is whole because it needs to include everything that represents the life power of the local community and, at the same time, the internal and external threats to this life power. Entire sustainability is the application of stress theory to the science and practice of sustainability. The entire sustainability concept questions the sustainability subject to the epistemology of the hegemonic development model. It is whole because it uses the ganz method to foster the creation of sustainable projects for the "new" world. This sustainability is integral because it needs to include everything that represents the life power of the local community and, at the same time, the internal and external threats to this life power. And the life power is everything that the local community has and it interprets as the sense of existence and continuity between past, present and future.

favela residents in the city. The director, Richard Castelo Branco, developed his own method (EspectAtor) informed by an epistemology of resistance. This epistemology is in tension with the city's official knowledge models (Branco, 2020). This knowledge of the favela is not used by the centers of knowledge power, nor is it transformed into economic capital in the country. The desire to see knowledge of the favela being used for the country's development was the dream of Camilla de Hollanda Amado, who was an important Brazilian actress and theater director. Camilla Amado helped give visibility to this cultural group through the project "Bora Bora em Bando" that we founded together. She died on June 6, 2021, aged 82.

For example, work in social museology (Moutinho, 2007) and ecomuseology in Brazil has sought for some years to include the epistemologies of favela museums, community museums, and ecomuseums in official environments. In this work, the protagonists are the residents themselves. They tell their stories, preserve their memories, and resist attempts by the hegemonic system to erase their stories (Chagas, 2001). Orality is the hallmark of knowledge production and transmission of wisdom in the great traditions in Africa Latin America, and many other parts of the world. The value of oral traditions and memory also reveals the tension of sense with the epistemology of the closed rationality of modernity, as visible in the understanding of history developed by the 'École des Annales', founded by Marc Bloch and Lucien Febvre (cf. Burke, 2002).

The tension of sense takes place within the paradigm of modernity. This tension is no longer restricted only to the analysis of how hegemonic centers nullify the knowledge of the peripheries. This is an important step in the process; however, the exhaustion of this paradigm reveals the tension of sense in both the hegemonic centers of power and in the peripheries. In many cases, there is a great seduction in the periphery by the epistemic paradigm of hegemony. For this reason, the epistemology of the theory of tension is the attempt to be an alternative to produce "new" knowledge that goes beyond the conceptualizations of the paradigms of modernity and postmodernity. There is a difficulty in defining what modernity and postmodernity are. It is not clear whether we are in hypermodernity (Lipovetsky & Charles, 2005), liquid modernity (Bauman, 2012), or second or reflexive modernity (Beck, 2006). Similar attempts to define modernity and postmodernity take place in philosophy: "weak thought" (Vattimo & Rovatti, 2012), "burnout society" (Han, 2015), and risk society (Beck, 2006). The tension is implicit in these definitions of modernity and postmodernity. The verification of the limits of today's society is clear. The theory of the creative tension of sense proposes a transition from theoretical reflection to practice within a tense society where tensions have increased exponentially. Therefore, the epistemology of tension is built on the permanent interrelationship between theory and practice. The tensions show continuity in the discontinuity. This is the birth of the "new" world within the "old" world. The tension of sense is a mark of the "new" world, the topic discussed in the next section

7.3 The Tension Derived from the Birth of the New World Within the Old World

It is possible to observe the tension of sense as a function of the birth of the new within the old world. It is also important to state that the terms old, conventional, traditional, new, and current are insufficient to explain the transitions in society. These terms are themselves subject to rapid change. New and old can be relative in models of tension in all segments of society. Therefore, the epistemology in which theory and practice are thought together is derived from concrete situations. What criteria will be used to choose between the new and the old?

The new and the old are always connected by what made sense yesterday and no longer makes sense today. Even the definition of what is new and old must be understood from within the tension between the two. It is important to observe the established, novel, and germinating senses of life within local communities. What gave sense in the past but no longer does now? What is born but not fully developed? These situations are present in tense relationships throughout various spheres of society, especially in the daily life of the local community. These include economic models, development projects, public policies, educational models, and others (Beck, 2006). The paradigm is tension of sense.

The contribution of the creative tension of sense to a new Geopolitics of Knowledge is not restricted to a discussion of the classical theory of knowledge alone: it includes a Whole Approach to reality. This approach considers the constant relationship between theory and practice where there are sense tensions. Therefore, it is not about any tension, but the tension of sense.

The relations of sense between old models and new models in various areas are fundamental conditions for the nature of this epistemology. That is why I am not referring to any specific tension, but to the sense of existence of an individual, a group, a people, an organization, a company, a public policy, an urbanization project, a city, a model of development, a program of sustainability, a body of knowledge, or a theory. This tension of sense occurs in the tense relationship between the birth of the new world within a context of tense-pluralistic epistemologies in the world: the crisis of the rationality of modernity, rapid changes, whole sustainability challenges, artificial intelligence, etc. raise questions about what is the sense of life, what is the human, and so on. Tension of sense between the "weak self " and the "strong self ". The tension is ancient, but it is also new. For this reason, the creative tension of sense is a theory of knowledge that is born from concrete situations where the impact of the tension of the "new" and "ancient" provokes the sense experience. These changes directly provoke the question of the sense of life itself.

This search for sense exists in the tension that occurs in traditional institutions, in changes in society, and between the fragile frontiers of areas of knowledge. At this point, it is important to emphasize that the whole tension approach shows the tense relationship between the new knowledge that emerges in society and the formal knowledge of institutions. The response time to the search for sense in society is very fast and increasing exponentially. So even the way you feel about time is tense.

The tense relationship between the new and the old in society generates attempts to respond to the sense of existence. With this, it is possible to reflect on knowledge both in terms of the nature of knowledge and the productions of sense in the daily life of the local community. In this field, the frontiers of the areas of knowledge are fragile and subliminal. Here, too, there is the tension with the conventional models of knowledge production. The construction of knowledge today follows other logics because the main issue is the need for sense in the face of rapidly changing situations. Therefore, in this epistemology, the approach to making sense of reality is tense, whole, in a movement of exponential change, and constant. The crises of instituitions arises in this context (Bauman, 2012). Universities are in this crisis. The tension in knowledge is also the tension in knowledge models in higher education.

The tension is whole. This same tension also occurs in the local community. It is the tension of sense between the local community and wider society. Tensions currently impact the main areas of local community life that relate to the sense of being in everyday relationships. Above all the tension is present in the internal relations of change with the implementation of external and global projects. The tension intensifies when these projects disregard the protagonism of the local community, the active participation of its representatives, the collective memory, the history of the local community, and decreases jobs. The tension of a specific area can reach the whole community and even beyond. In some cases, it is impossible to predict the consequences of this tension because of the rapid changes and other factors of that networked society. The tension of the birth of the "new" world within the "old" world impacts companies, the economy, and the labor market. In these contexts, the time for reflection on the situation is extremely short, especially because the changes are rapid. Without specific methods for making decisions within tensions, it is possible that we will face many challenges and major conflicts today. These conflicts endanger the survival of the local community and the external community in this tense society. In this context, the Ganz-Methode provides the practical dimension of tension theory. Theory and practice are inseparable in the espistemology of the theory of the creative tension of sense. The Ganz-methode is the whole dimension of the Tension Theory. It makes it possible to make whole decisions considering tensions. Whole or Ganz is the identification and articulation of tensions together. Therefore, the *whole* is the whole approach to reality that is always changing. Whole here is not synonymous with holistic.

7.4 The Ganz-Methode 1: Sustaining Tension to Build the Whole Approach in Motion

In the Ganz-Methode, the tension does not need to be resolved or dissolved in the first attempt. There are steps that need to be followed. The tension needs to be sustained. Sustaining the tension of sense allows time for internal change within a local

community. This is necessary because the tension is not only external; there is also a period of internal change within the individual. Therefore, the tension takes place in a dimension of sense of existence. With this, other questions concerning the sense of life should be considered in the transition process without excluding the old because of the new.

At this stage, it is necessary to have a whole observation of the tensions that refer to the sense of existence. This whole approach to all the tensions involved in the process is the *Ganz-Methode*. Therefore, in the epistemology of tension, there is no separation between ontology, hermeneutics, and epistemology itself. There is not even a language ready to capture the totality of the whole approach to tensions. The whole approach of the *Ganz-Methode* does indeed open the possibility for the "mystery", the "surprise", the "fascination", the "vunerable" and the "uncontrollable" of the "new" to happen. The tension of sense is the possibility of the "new" being born within the "old". The whole approach is the space to accommodate tensions with the possibility that all dimensions of life have the value of existence and sense. Here it is not necessary to dwell on the philosophical questions about existence that drives the transition, but rather on the question about the whole sense of coexistence. Therefore, the question is present even when there is silence. The starting point is not the answer, it is the silence that exists in the strained relationship of the birth of the "new" within "old".

Therefore, in the whole approach of Ganz-Methode, the new needs the old for its existence with whole sense. It is necessary to develop a model of education that can sustain tension: models of policies, models of growth, models of economy, models of spirituality, models of research, models of coaching, models of individual and human development. Tension will be a condition through which to understand and engage in questions raised by society's exponential rate of change, e.g. digital experience, and to make decisions with whole approaches. This is the possibility to make decisions within the exponential tensions of change in a tense society.

7.5 The Ganz-Methode 2: Life Power and Values of Sense of Life in the Local Community and in the Global Context

Even if the new gains autonomy and currency, this autonomy will always be in a tense relationship with the old or ancient. Even if the old remains, it will always remain in tension with the new. For this reason, the creative tension of sense is above all an epistemology of tense interpretation and of whole actions within the age of exponential change: crises of modernity's closed rationality, the protagonism of "new" epistemologies around the world, and, profound changes of sense that affect all areas of society. The new reinforces the limits of the ancient, but the ancient confirms the limits of the new in the *Ganz-Methode*. The methodology for sustaining the tensions is very important for describing the life power within the

relationship between new and old. Life power refers to the practice of searching for the sense of life that appears in the whole approach to tensions. The tense society is at the limit of life sense and yet we do not have the security to solve the problems and exponential tensions in several areas. This is demonstrated in the current context of the Covid-19 pandemic.

At this stage of the whole approach of the *Ganz-Methode*, it is vital that interim rules and regulations are built. They protect and promote the sustainability of the values of life in tension, the protagonism of the local community, the dignity of the person, the preservation of biodiversity, the development of local memory, the participation in decision-making in society, the dignity of groups that have been excluded, the spiritualities, orality, art, and the different forms of sense of life and life power.

However, there is also a sense tension in the values of life at the birth of the new world within the old. The values of life are also in a tense relationship between the community and the wider global context. The whole approach to tensions shows the tension within the values for life. This method can also reveal values for death, that is, the extermination of the other simply by the fact of being another. Therefore, the whole approach makes it possible to expose the values underpinning tense relationships. Thus, it becomes possible to construct criteria, norms, regulations, mediations, and actions of whole impact for the preservation of the life and the whole health in the local community. This is the life power and whole sustainability in tension.

The methodology of "sustaining the tensions" opens the ethical discussion within the tension between the birth of the new world within the old: should the new or old have priority in tense situations? This means that the new can be more important in one context, but in another the old one is more plausible. However, in any case, it is crucial to make decisions within the tension of both the local and global context. The contexts of tensions are rapid changes, environmental crisis, epistemological diversity, degrowth, and digitisation.

However, it is necessary to separate the tensions in the whole approach in order to make decisions. The whole approach of tensions is always adapting to the movement of rapid changes and tense epistemologies around the world: this is the *era of exponential tensions*. However, it is important to separate some areas to show how the creative tension of sense occurs in different segments in society. The academic context, for example, lives this tension in reality: the tension between academic knowledge and non-formal knowledge.

In many cases, the university is unable to keep up with the speed of the transition. The entry of young people into the digital economy is one example. The concept of storytelling marketing (Aguiari, 2021) is an example of this tension with conventional models. There is a creative tension of sense between the old and the new within the disciplines. This opens a tension to define the nature of the discipline. The dialogue with other, related disciplines gives rise to proposals that interfere with the definition and the central contents of the discipline. This generates the sense tension between the new and the conventional (Burke, 2002).

There is also a creative tension of sense in the curricula of particular disciplines or fields. Everyday it is possible to perceive the emergence of new areas to cover in the curriculum. Tension occurs because the traditional of the disicpline may lose space. This tension impacts the design of the course and it causes tension in the power relations of the academic universe. Therefore, the sense tension exists within the higher education instituitions. The tensions in the disciplines and the design of the course cause a tension in the nature of the knowledge of the faculty itself.

The whole approach to society reveals the tension between global interests and rights in the local community. This impacts other areas of society. In several parts of the world, it is possible to perceive the tension of sense between the participation of the residents and the defense of the rights of the local community and global interests. This tension will be reflected in the concept of development being used and the practical results of such development. It is the tension between people's rights in the local community and global interests (Benadiba & Plotinsky, 2005).

The institutions are related to the community and the development model will impact the community. Tension between the development model focused on fossil fuels and the renewable energy model impacts on the sense of life of the local and external community. In that case, global warming places a tension on the sense of life for society. It is the tension between two development projects that has implications for all areas of society (Rahmstorf & Schellnhuber, 2012).

The whole approach to the society in tension shows that the tension of sense is also present in the relationship models, for instance the tension between the project of life focused on interpersonal relationships and the virtual relations of social networks. The exponential tensions presented by social networks and the digital-technological era impact several concepts related to the sense of life, among them presence, absence, distance, solitude, company, real, virtual, truth, lie, anguish, exchange, participation, engagement, information, knowledge, learning, performance, individual and collective development, fatigue, good, evil, anxiety, happiness, death, and life. This leads to the search again for the sense of being alive. It is the "Whole Crossing" in the tension of change inside the tension between the "weak self " and the "strong self ".

This is the tension brought about by the impact of social networks on the organization of societies and people's lives. (Castells, 2012). There is a tension of sense between the epistemology of human development, human sciences, and sustainable health. What is a whole life today and the concept of "life power" (Die Lebenskraft) of each person in the exponential tension and tension of sense? At this point, the tension theory of sense is a new theory of human development, individual and collective, based on the tension of sense, the exponential tension, and the whole approach to life and society.

The tension of the birth of the new world within the old world impacts the way in which human beings find the sense for their existence. Therefore, the whole approach to tensions leads to theiscovery of personal life power, and the life power of the organization, the company, the university, and the city. Life power is the practical repositioning of decisions to develop a whole impact for life. Before being a theoretical reflection on the sense of life, life power (Lebenskraft) is the experience

that arises from the tension between the new and the old. This is concept of whole life intersecting with tension theory.

But there is also tension between old information vehicles and social media vehicles. The possibility of narrating the same fact through various media opens up a tension of sense in society and in organizations. This tension is greater in institutions that historically possessed the power over information and its transmission. The tension of sense lies in the power of information but also in the concept of truth. But the tense society also holds the tension between traditional knowledge production authorities and social media authorities. Today, people who have no formal credibility can become authorities on various subjects through social media. These people are influential. Some are called "influencers", with thousands of followers, who offer a kind of knowledge that has not been produced in formal environments. So, there is a tension of sense in knowledge, in authorities, and in the definition in truth and what is important for the preparation of students for participation in society.

Another central point of sense tension is the tension between the use of artificial intelligence, technologies, and the digital economy, and the needs of the human being. There is an increasing tension of sense in all the segments in which human protagonism was previously the most important. In the past, companies needed people to make their businesses successful. But now there is a tension of sense existence. In the labor market, for example, there is the tension of sense between companies with workers and companies without workers. It is the tension of precarious work. The use of artificial intelligence and digital technologies question the need for human participation in different areas of society. How should companies and society act within this tension? How can we make an economy dominated by artificial intelligence, digital technology, the internet, and social media work for all people? (Unger, 2019)

Tension between the economy with labor and the economy without employers, productivi, and with more applications and "rentism" is the great tension in capitalism, or the exponential tension in capitalism. When the advancement of the economy no longer needs the worker for its existence, it opens a tension in the project of society in Western capitalism. The tension increases because it can become more profitable for the CEO of the company to save money rather spend it on the company or the development of society. The impact of changes in the economy causes the tension of a sense of existence in other areas and the purpose of the economy in a capitalist society. It is the great tension within capitalism, as illustrated by the debate about the de-growth (D'Alisa et al., 2015; Romano, 2019). Therefore, a whole approach to tensions is important to make decisions by always linking theory and practice.

7.6 *Ganz-Methode* and the Whole Tension Approach: WTS Coaching

Ganz-Methode is the whole approach to tensions in the context of new epistemologies and rapid changes. This whole approach to tension is taken in the specific context where the tension exists but also in relation to the external context of tension. In *Ganz-Methode*, there is a constant relationship between the tensions that happen on the global scale and those that happen at the local level. By detecting the elements of the new and the old that form the tension, it becomes essential to describe the models and present them so that it is possible to visualize the new and the old together. Next, it is important to realize the relationship between this tension in the specific context and the tensions on the same subject in wider, global environments. Choosing the priority of the new over the old or the old over the new depends on the interpretation of the scenario's impact. An impact is presumed, but its consequences must be observed in both the local and global environment.

The whole approach in *Ganz-Methode* makes it possible to make choices within fast changes and exponential tensions. With *Ganz-Methode*, it is possible to build new models, develop practical projects, and constantly measure the impacts of change and exponential tensions. These projects always unite theory and practice and maintain the tension. Hence, the philosophical concept shows that the whole is always in the movement of change. Thus, the philosophical premise underlying the *Ganz-Methode* is the tense relationship between models within tense epistemologies, rapid change, and exponential tensions. These changes are analyzed in the specific context of tension and in relation to the wider context. Therefore, in the whole approach in *Ganz-Methode*, practical actions respond to the sense of existence. These actions prioritize the values of life and the whole sustainability concept. Hence, the creative tension of sense depends on the whole *Ganz-Methode* approach, and the whole approach depends on the creative tension of sense. In the context of exponential tension, very little is known about the future. Everything is temporary and tense.

All areas of sense tension are connected internally and externally. Decisions in the local context impact the global context and vice versa. With *Ganz-Methode*, it is possible to have a greater sense of the impacts of each choice and when to prioritize the new or the old in the context of tension. Whole life sustainability values should also be considered to measure the impacts of change. With this, it is possible to analyze the ethical consequences of accepting the new or maintaining the old, even if the ethics are also under tension (Stoltenberg, 2009).

Ganz-Methode, or the whole approach, encourages the participation of all in the process of tension and its unfolding. Hence, it shows that all human ills and virtues are present in the tension. Therefore, it is important to also expose the tension between the values for life and the values for death in the processes of sense tension.

Moreover, an ethical discussion is a fundamental part of the whole approach to the tension of sense, since the tension is also an ethic. But the ethical discussion in tension models makes it possible to construct parameters for change. With this,

choosing between keeping the old or the new becomes a conscious choice. It is therefore important to analyze the whole impact of tensions in both the local and the global context. This is "today's new" within exponential tension.

In a further step, the tension between the values for whole life and the values for death are fundamental for the whole tension approach. These values reveal the projects for maintaining the sense of life and also those that are contrary to the sense of life. It is true that the concepts of life and death are also in tension. Therefore, in this whole-tense epistemology, the sense of death is defined as the symbolic and real annihilation of the other. The tension for death is based on the use of power as the domination of the other and of nature itself. This can occur in the local context between people in the same group or by external groups that pressure the local community. The whole approach to creative tension of sense is, ultimately, the option for the generation of life, hope, and sense. This is the power of life. Therefore, the whole approach in movement is also a reflection and exposition of evil in all its dimensions, both theoretical and practical.

7.7 Interconnection Between All Tensions in All Areas of Knowledge and Society: Whole Approach – Ganz-Methode

The university has been the systematizer of knowledge in recent centuries. It also goes through tension like other organizations in society. What is the meaning of the university when this hegemonic knowledge is questioned? The university has been the systematizer of knowledge in recent centuries. It also goes through tension like other organizations in society. What is the meaning of the university when this hegemonic knowledge is questioned? Could it be that the tension of sense is not constitutive today of the university itself? The creative tension of sense within the disciplines has an impact on the choice of content. This choice has an impact on the whole course. The course, in turn, impacts the sense of existing university in relation to the birth of the new within the old and the rapid changes in society. In this respect, the tension between formal knowledge and knowledge in society generates tension in the sense of the university itself. There is, therefore, the tension of sense between the models of new universities that are born within the old universities. The university, in turn, is directly related to the tension between the new society that is born within the old society.

In society there is a sense of tension between global interests and rights in the local community. Further, there is tension between development models that depend on fossil fuels and models that focus on renewable energies. This is a symbol of the tension between two projects of society. At this point, there is the tension of sense between global interests and the rights of the community where the raw material is found. There is also the tension between the use of artificial intelligence and digital technologies and the place that the human being will occupy in the process. This

tension already has an impact on the labor market, causing tension in the human being's reason for existence.

In the local community, the tension between the real and the virtual world creates the tension between interpersonal relationships and life in social networks. In this field, great tensions occur: in the monopoly of information, over the monopoly of participation, in cultural exchanges, identities, and in the concepts of distance, presence, absence, time, space, anguish, solitude, finitude, transcendence, end, and beginning. In the whole approach of Ganz-Methode, this is the context of tension of sense and exponential tension. This is the concept of a *tense society*. Today, all these segments in society are connected by tense relationships in search of sense. This is the concept of whole approach in Ganz-Methode. It is literally the birth of the new world within the old world. This the tension of sense between the "meta" and the "verse". Living in the real world and in the other reality.

7.8 Conclusion

The central question about the university and higher education is how can they participate in the solution if they are central parts of the problem? One possibility suggested here is to welcome the tension of the birth of the new within the old. As an important locus of the traditional model of the systematization of knowledge, higher education can also assume the epistemology of tension and help the birth of the new. The university can be a "locus" of the life power in society. But for that it needs to be connected to the tension movements in the sense of life in other areas of society. The university also needs affective listening and listening in tension. For this, it will need to horizontalize its relations to capture the life power of all stakeholders. That is why the tension is not outside, but within higher education.

The birth of a new world within an ancient world causes the sense tension of existence, or creative tension of sense. This tension affects all areas of society, and the university. It is necessary to create policies for development of the "new" geopolitics of knowledge in tense contexts. In the epistemology of tension, the whole and distanced approach of the tensions, as shown with the *Ganz-Methode*, is fundamental. This method enables the birth of the new always in the tense support of the old. The protagonism of the new or old will always depend on the community involved in the process, or outsiders who become knowledgable of the tension despite being outside its context. With this, it is possible to create practical actions and, at the same time, to present the tension between values for whole life and values for death in the process of change and exponential tension. This is the new in tension, or today's new concept. This is the movement that can generate new forms of knowledge in different places of the world in the current environment of rapid and exponential tensions.

Today, the whole education or *Ganz Education* in tension is essential to learn to sustain tensions and to discover the life power of each tense situation and the life power of each person in tension. In the new world, it will be necessary, for example,

to link the choice of work and profession more on the basis of the sense of life and the internal power of life. The power of life is where the values of happiness are built within each person. That's why it's also possible to talk about happiness businesses within the whole of sustainability. It is the individual and collective business in the local community with the technological resources of digital transformation. The three models form the whole business in the era of exponential tension, tense epistemologies, and tense society. This is the wisdom economy in tension theory. In this economy, individuals and organizations develop creative solutions with local knowledge and wisdom to solve individual and collective demands and create conditions for pleasure, health, and happiness.

Actions stemming from tension and the whole approach need to consider the specific tensions of the local context. The same is necessary to address the tensions of external and global contexts on the same issues. The fact is all areas of society experience the tension of sense and they are tightly interconnected. The new situations that arise may be unprecedented in human history. They impact society in a whole way. This new reality causes a tension on the sense of existence of older, more conventional organizations.

The tension of sense and the whole approach in *Ganz-Methode* form the creative tension of sense because they allow the birth of the new world into the old world: tension in concept of the whole life and of existence. However, this birth occurs without excluding one of them in advance. Thus, it would be possible to speak of tense intelligence and whole intelligence to act within the context of rapid changes and exponential tensions. That is the intelligence of "today's new: to educate to sustain tensions and to take whole descriptions. This is a possibility for the epistemologies of higher education to also unite theory and practice with a focus on the power of life: tension of sense and the whole approach as a challenge to the Geopolitics of Knowledge and higher education.

The tensions of sense in different areas of society with the *Ganz-Methode* approach pose some challenges to the "new" geopolitics of knowledge. Which institutions define the types of knowledge with academic validity in the context of exponential tension and of sense of existence? How to recognize with academic criteria the new knowledge that tries to answer the demands by sense in the society? How to analyze this knowlegde if the tension of sense also exists within formal and well-established institutions? How to understand this new knowledge if they are inserted into rapid and exponential changes? This implies there is a tension between the time taken to analyze a certain knowledge in traditional institutions and the time in which society is already applying new knowledge to give sense to the questions of whole and tense life. Therefore, it is necessary to sustain the tension between the new and the old.

It is important for a "new" geopolitics of knowledge to open up to the various forms that local communities in various parts of the world have sought to respond to the tension of sense. Many of these forms provoke a sense tension within conventional epistemologies that have been developed in modern societies. In many of these communities, the tension of sense is integrated into the playfulness, the festivals, the rites, the orality, the symbolic, the experience of a whole reality, the

strength of community life, exchanges, art, music, spirituality, and the necessity of explaining rationality to reality as a sine qua non of living. Therefore, there is another rationality as the starting point for the interpretation of reality and the organization of life with sense. At this point, there is a challenge for the hegemonic epistemologies of higher education. Welcoming the epistemology of tension and the *Ganz-Methode* can help universities in this transition process.

How is the birth of the new possible without necessarily abandoning the old? The new and old will be subject to the criteria of the sustainability of whole and tense life and the whole impact on the local community. But tension also reveals what is life threatening in this ega. This threat is as much from the inside as it can come from the outside. It is tension that can bring life and tension that can bring destruction and death. Increasingly, it is necessary to make a great planetary effort to protect life. It would also be important to think about who the human being is in tension and in her possibilities.

With this, one arrives at the next contribution of tension theory to the methodology of a geopolitics of knowledge: the analysis of knowledge and practice exist together in constant tension. All areas of society feel the tension of sense of existence in the context of rapid and exponential changes. Thus, all tensions are interconnected and change exponentially. This is an exponential tension. The university is not separated from the rest of society. That is why the problem can also be the solution.

What would normality be in a context of the crisis of sense in a tense society? Tension of sense in knowledge, in traditional institutions, because of environmental tension, rapid changes and exponential tensions? Normality in a tense society is the tension of sense. There is a risk that we will have major destructive tensions in the future if tension education does not become a global geopolitical project. This is the era of the new in tension. The tension is normal because the "old" and the "new" must always be together. Therefore, tension is "today's new". The theory of tension of sense is the "new" paradigm of knowledge. It can contribute to bringing higher education closer to theory and practice.

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Part II
Places – Institutions – Interactions – Connectivities

Chapter 8
(Un)avoidable Clash: Higher Education at the Altar of Its Missions and Rankings

Pepka Boyadjieva

8.1 Introduction

In the preface to the 2nd edition of her influential book, *Rankings and the Reshaping of Higher Education. The Battle for World-Class Excellence*, Hazelkorn (2015, pp. xix–xv) presents the following data from an international survey carried out in 2014: 84% of surveyed higher education institutions (HEIs) have established a formal internal mechanism to review their institution's rank and "[a]n overwhelming majority of surveyed HEIs use rankings to inform strategic decisions, set targets or shape priorities". These findings clearly demonstrate that rankings have become one of the most influential drivers behind transformations in national higher education systems, HEIs and their subunits (Hazelkorn, 2015; Marques & Powell, 2020).

An instructive example of transformation within a higher education institution (HEI) guided by the desire to improve its ranking status is the case of the University of Kentucky, USA. At the beginning of this century, the University of Kentucky was given a directive by the state legislature to achieve Top-20 status among US public universities by the year 2020. The University of Kentucky is a public land-grant institution, established in 1865, traditionally offering programmes in agriculture, engineering, mining and general liberal arts education. In order to reach the target, the university developed a strategic plan which revised its mission and value statements (DeYoung & Baas, 2012). Despite all efforts, the USNWR's 'Best National Universities' ranking for 2010 was very disappointing – the University of Kentucky was ranked 129th. One of the main reasons behind this failure was the fact that the "USNWR rating system penalizes institutions that enrol considerable numbers of students with a lower statistical probability of graduating; that is, lower-income, non-traditional or minority students" (Ibid, p. 103). Thus, it turns out that the

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University of Kentucky was forced either to abandon its plan to reach a top status in the USNWR ranking or its mission as a land-grant university which strives "to increase educational access for less advantaged populations while being strongly committed to regional and state economic development" (Ibid, p. 82).

However, rankings are not only a crucial driver of transformation of higher education systems. With the upholding of knowledge-intensive societies they have become

> an inevitable outcome and *metaphor for the geopolitics of HE*. Because they predominantly measure basic research and dissemination – in limited fields and in a traditional way – they provide competitive advantage to elite universities and nations which benefit from accumulated public and/or private wealth and investment over decades if not centuries. *They reflect the structure of the world economy and global science* (Hazelkorn, 2018, p. 10, emphasis added).

Against this background, the chapter discusses the tension between the plurality of missions of HEIs and global rankings, which – in most cases – are based on narrow and one-sided indicators. More specifically, the aim of this chapter is twofold. First, it is to theoretically outline a new model of the missions of higher education which captures the complexity of the influence of higher education as an institution on individuals and society. Second, it aims to critically discuss the idea of a university, upon which global rankings are based and promoted, through the prism of the developed multidimensional model of the missions of higher education.

The chapter proceeds as follows. To begin, we discuss the essence of higher education as an institution and present a multidimensional model of the missions of higher education, taking into account its intrinsic, instrumental and transformative/empowering role. This is followed by a discussion of the inevitability of global rankings in the context of massification and diversification of higher education. In the next section, the developed model of the missions of higher education is used as a prism for assessing global rankings' neglect of the diversity of HEIs in terms of their goals and structure as well as their affirmation of only a limited understanding of the public benefit derived from higher education. The last section provides concluding remarks and asks whether it is feasible for HEIs to focus on missions instead of rankings.

8.2 Higher Education as an Institution

In order to answer what HEIs are for, we have to understand the essence of higher education.

Institutional theory argues that institutions contain cognitive-cultural and normative dimensions alongside the presumed regulative dimension and, thus, structure internalised norms of individuals (Scott & Davis, 2016). Viewing higher education as an institution means acknowledging that it is a relatively autonomous social sphere. Although embedded in and influenced by the wider social context, higher education functions according to its own specific principles and norms which may

additionally differ for different HEIs (universities/higher schools; private/public). There are important aspects of higher education which are highlighted by its understanding as an institution and which are germane to the present analysis.

First, higher education is and has been a central institution of modern societies. As Meyer et al. (2007, p. 210) put it:

> [f]rom its medieval origins to its post-modern incarnation, universities are not mainly local organizations justified by specific economic and political functions or shaped by particular historical legacies or power struggles. A much broader cultural and civilizational mission has always informed higher education.

Second, in its central 'university' form, higher education has a history of almost a millennium and, throughout the whole period, it has nearly monopolised some very central steps in the implementation of the Western and modern-day cognitive models of progress and justice, models now circulating through the themes of excellence and equity so prevalent in higher education. Among the products of higher education are also the expanded organisational rationalisation of society, the increased globalised forms of interaction and the enhanced potential for social mobilisation (Schofer et al., 2020).

Third, albeit universities are surprisingly homogeneous in terms of cultural content throughout the world and they follow isomorphic trends in their development, organisational forms (for example, degree of autonomy or status – private or public) vary substantially across countries and even within national states.

Fourth, the understanding of higher education as an institution provides grounds for revealing and taking into account often overlooked mechanisms of socialisation and identity formation in and through higher education. More concretely, the socialising function of education is implemented not only through the formal curriculum but also through the so-called 'hidden curriculum', whose influence often turns out to be stronger and more important than the content of textbooks and official lectures. This hidden curriculum focuses on the implicit, unplanned, invisible messages of educational process and practices. The lessons of the hidden curriculum are 'taught' through the very way in which educational institutions operate and are 'radiated' by all their elements. The influence of higher education on students also depends on envisaging a student's future status and role in society. Knowing what one is institutionally designed to become by a given HEI shapes individual motivation and desire to apply to it. Relying on J. W. Meyer (1970), we can claim that higher education as an institution has its own 'social charter'. The social charter of HEIs is the "institutionalized social definitions of their products" (Meyer, 1970, p. 577), i.e., what social position each HEI can guarantee its students in society, or what future it can hold out to them. HEIs which are chartered to confer major status gains and entry into prestigious social groups (elites) are seen as more likely to have broad effects on their students.

Fifth, as an institution, higher education "has an impact on society over and above the immediate socializing experiences it offers the young" (Meyer, 1977, p. 55). At the level of the individual, this influence is mainly associated with the identity-formation effects of entering higher education and acquiring the status of

student/graduate. An individual's opportunities and expectations are substantially transformed when s/he becomes a college graduate, and this transformation is independent of the particular student experience (Meyer, 1970). At the societal level, conceiving higher education as an institution, not only as an organisation for producing trained individuals, allows us to see that "the university serves a highly collective function". It links the "role structure of society to universalized cultural knowledge" and "defines certain types of knowledge as authoritative in society, and authoritative on the basis of the highest cultural principles (e.g., science, rationality, natural law)" (Meyer et al., 2007, pp. 206–207). Higher education – to a much greater extent than the other levels of education – "constructs and alters the network of positions in society in addition to allocating individuals to these positions" and "confers success and failure in society quite apart from any socializing effects" (Meyer, 1977, pp. 56, 64). In terms of social differentiation and a strong social division of labour, it is common practice for people to be allocated to different social roles based on the number of years and type of school they have completed without really taking into account what knowledge and skills they have acquired. Moreover, unlike the socialisation effect of higher education that matters only to those exposed to its impact, the distributional role of higher education has significant implications for both the individuals included in the system and those who remain outside it. Higher education is revealed as an institution that, through legitimising a section of young people as successful, labels and 'stigmatises' others as 'failures.' These processes are extremely important for affirming students' positive social worth but also for creating recognition gaps.

8.2.1 Model of Higher Education Missions

According to C. Kerr (1963, pp. 8–9), "[t]he university is so many things to so many people that it must, of necessity, be partially at war with itself". Nevertheless, it is evident that the raison d'être of higher education in contemporary societies consists simultaneously of three purposes – teaching, research and service (Tight et al., 2009). Specific higher education systems and HEIs combine these three missions and the activities associated with them in different manners by putting stress on one or the other.

Within the framework of the capability approach, Drèze and Sen (2002, pp. 38–40) outline five different ways in which education can be valuable to the freedom of a person: intrinsic importance, instrumental personal roles, instrumental social roles, instrumental process roles and empowerment and distributive roles. Relying on this distinction between the various roles of education and taking into account the above-described specificity of higher education as an institution, Boyadjieva and Ilieva-Trichkova (2016) have developed a normative theoretical model of the missions/roles of higher education. The model follows two lines of reasoning: (1) *level of influence*: individual or societal, and (2) *character of influence*: intrinsic, instrumental or transformative/empowering.

A further developed version of this model is presented below (see Table 8.1).

The model clearly demonstrates the complex nature and plurality of the missions and values of higher education as an institution. At the individual level, it differentiates the missions/roles of higher education related to different aspects of personality development, alongside graduates' employability, and classifies them according to their instrumental, intrinsic or transformative/empowering value. At the societal

Table 8.1 Normative model of missions of higher education as an institution

Level of influence Character of influence	Individual	Society
Instrumental	Increasing employability (formation of learners' abilities to find employment by developing relevant knowledge, skills, attitudes, identities) Formation of status identity as a learner Certification of graduates	Human development (viewed as improvement of human capital) Promotion of economic growth and innovation Stratification of different types of knowledge/disciplines Reproduction of (and change in) the professional structure of society and legitimisation of new professional roles Diversification of cultural and intellectual centres
Intrinsic	Valuing and acquiring knowledge for its own sake	Creation and transmission of knowledge Legitimisation of different types of knowledge Legitimisation of specific values in society: rationality, equity (as both inclusion and fairness), trust, tolerance, freedom of thought, diversity Promotion of human understanding within and beyond national borders
Transformative/ empowering	Personality development Formation of responsible identity Gaining recognition Development of abilities for independent and critical thinking and imagination Agency development and empowerment to control one's environment Promoting individual mobility Promoting individual participation in social and political life and decision-making processes	Human development (understood as a process of expanding the real freedoms that people enjoy) (Re)distribution – facilitating social group mobility and the ability of different groups, disadvantaged included, to organise and express their interests Representation – facilitating participation of social groups in social and political life and in decision-making processes

Source: A revised version of the model, presented in Boyadjieva and Ilieva-Trichkova (2016, p. 50)

level, in addition to the widely discussed role of higher education for economic and cultural development, the model highlights its role for the societal legitimisation of different types of knowledge and values and its human development role from two different perspectives: an instrumental one, in terms of improvement of the population's knowledge and skills, and an empowering one, in terms of expanding the actual freedoms that people enjoy.

The model represents an ideal type in the Weberian sense – it has no ontological reality and is simply a cognitive instrument for capturing the diversity of missions/roles of higher education as an institution. Missions of higher education are embedded in different social and organisational contexts and can be studied at two levels – at the level of each specific HEI and at the supra-institutional level, being it national, regional or global.

8.3 The Inevitability of Highly-Criticised University Rankings

One of the most prominent features of the development of higher education as an institution in recent years has been "the dominance of global and national rankings (or league tables) in driving institutional efforts to gain competitive advantage" (Bowl, 2018, p. 2). On the one hand, there is a generally shared conviction that "rankings are here to stay" and there is "nowhere to hide" from them (Hazelkorn, 2014, p. 23; Marginson, 2014, p. 45). On the other, rankings have been the target of constant criticism (Dill & Soo, 2005; Gonzales & Núñez, 2014; Marginson, 2009; Marginson & Van der Wende, 2007; Teichler, 2011a; Usher & Savino, 2007; Van Dyke, 2005). At first glance, this situation appears paradoxical. However, in view of the specifics of higher education and its developments over the last few decades, the appearance of rankings is something inevitable, as are the constant criticisms levelled against them.

Philip Altbach (2011, p. 2) claims that "[i]f rankings did not exist, someone would invent them". The growing interest in rankings of HEIs and the establishment of increasingly numerous and diverse rankings are an inevitable result of radical changes emerging in the sphere of higher education in all countries of the world in the second half of the twentieth century and especially in the beginning of the present century (Hazelkorn, 2015; Hazelkorn, 2018; Marques & Powell, 2020; Schofer & Meyer, 2005; Teichler, 2011b). The trends in question are:

- the massification of higher education and the growing diversity of students in HEIs;
- increased competition within national systems of higher education and at the international level;
- the internationalisation of higher education and the rise of the international academic labour market;

- the commercialisation of higher education and the entry of market mechanisms;
- the diversification of institutions offering post-secondary education;
- the changed status of knowledge in modern societies and its increasing economic role;
- the increased importance of higher education as a barometer of national competitiveness;
- the rise of the 'audit society' (Power, 1997) in which accountability and evaluation have become norms.

Under these circumstances, the potential 'clients' of HEIs, such as students and their families and employers, are seeking information so as to make better-informed choices amidst the diversity of offered programmes. For its part, every HEI needs common, objective criteria and indicators for measuring its performance in comparison with other HEIs and to ascertain its specific place on the market of education services. Not least, the need for a comparative view of how different HEIs are functioning is deeply felt at the policy level when concrete higher education policies are grounded and elaborated.

Rankings have emerged as an instrument for the evaluation of HEIs within national systems of higher education. With the massification of higher education, and especially the unfolding processes of globalisation, the need arises for a common comparative assessment of higher education in all countries. The first global ranking of HEIs was conducted in 2003 by the Institute of Higher Education at Shanghai Jiao Tong University. The next was that of Times Higher, published in 2004. In the following years, several other global rankings established themselves, including that of Leiden University, Scimago, QS World University Rankings and the European U-Multirank system.

These different ranking systems are based on multiple kinds of information and data gleaned from various sources. An in-depth comparative study of the global rankings (Marginson, 2014) shows that there is no perfect ranking and each of the best-known global rankings has its advantages and shortcomings. As soon as they appeared, all the ranking systems were subjected to numerous criticisms by representatives of different social groups, especially the academic community (see for example: Teichler, 2011a, pp. 62–66). Very importantly, according to many authors, there is an accumulation of biases inherent in rankings. Undoubtedly, global rankings favour research-intensive institutions with strengths in hard sciences, universities that use English, older institutions in countries with long-held traditions, HEIs in countries with steep hierarchies and those with little intra-institutional diversity (Altbach, 2011; Kehm, 2014; Teichler, 2011a). University rankings are defined as 'unfair' – which is not due to the technique of measurement but rather their usages and the rationale for their existence. Li et al. (2011, p. 923) argue that:

> [a] large amount of cross-country variation in university performance can be explained by just four socioeconomic factors: income, population size, research and development spending, and the national language.

Rankings are seen as a driver of "a market-like competition in higher education" (Marginson, 2014, p. 47) and as an instrument to "normalize and to justify existing social divisions" in stratification and organisational segmentation (Cantwell & Taylor, 2013, p. 220), to "*confirm, entrench and reproduce prestige and power*" in higher education (Marginson, 2009, p. 600, emphasis added). The ranking of HEIs is also defined as:

> *a formidable machinery of symbolic and economic power*… a politico-ideological technology that serves not the educational needs of students or teachers, but rather the interests of the global elite (Amsler & Bolsmann, 2012, p. 286, emphasis added).

8.4 Ranking Systems Through the Prism of the Multidimensional Model of the Missions of Higher Education

The developed multidimensional model of the missions of higher education provides a specific prism through which we can see the idea of higher education promoted and legitimated by (global) ranking systems. As Hazelkorn (2019, p. 9) rightly highlights, there is no doubt that "rankings drive behavior", but the important question is in what direction, and it must be acknowledged that "the direction of travel depends upon the choice of indicators." The directions in which rankings drive – and even push – HIEs are very important as they effect HEIs' relations with national state and their place – and also the place of different nations – on the global landscape of knowledge.

8.4.1 Rankings Affirm a One-Fits-All HEI and Neglect the Diversity of HEIs in Terms of Their Goals and Structure

As a rule, all ranking systems, especially the global ones, consider certain kinds of HEIs to be the norm – these include research universities that stress the natural sciences. Moreover, they apply "a rather narrow definition of quality or performance on the basis of a 'one-fits-all' measurement by using the same set of indicators for all institutions" (Kehm, 2014, p. 104). Thus, they enhance the prestige of some institutions at the expense of others. For example, the technical and professional HEIs that – in countries like Germany (e.g., Fachhochschulen), Finland, Switzerland and France – have long traditions and are among the most prestigious HEIs are under-evaluated in global rankings (Marginson & Van der Wende, 2007).

8.4.2 *Rankings Affirm a Limited Understanding as to the Public Benefit Derived from Higher Education*

In attaching the greatest weight to indicators connected with research productivity or faculty publications and citations, global rankings legitimise higher education simply with respect to its contribution to the production of new knowledge. As a rule, rankings leave out of the picture the role of HEIs as a source of critical sensitivity in democratic society – a role that was, for example, especially prominent in the years of transition from totalitarianism to democracy in Central and Eastern European countries or in France in the 1960s. Also, global rankings disregard the benefit yielded by higher education in promoting goals such as improved access for students from traditionally underrepresented groups, increased affordability of high-quality post-secondary education, contributions to community development or social justice (Pusser & Marginson, 2013). This is a very important role of higher education, having in mind that although the expansion of higher education is inclusive, there are still great differences in its fairness – that is, in the chances for children from different social and educational backgrounds to attain higher education (Arum et al., 2007; Boyadjieva & Ilieva-Trichkova, 2020).

Regional and community engagement indicators are very rarely present in the majority of both national and international rankings. Attempts have recently emerged to develop meaningful measures for the civic and regional mission of HEIs, in countries such as the Netherlands, Sweden and the UK, or these have been initiated by the European Commission within the framework of some projects. However, the validation process and analyses show that these attempts have not succeed in satisfactorily capturing HEIs' social and civic contributions (Benneworth & Zeeman, 2018; Farnell, 2020).

It should be emphasised that some of the global rankings have undertaken important steps in order to more broadly recognise the public benefit of higher education and to take into account the diversity of HEIs in their missions and strengths. In 2015 the European U-Multirank model included measures for regional engagement, such as graduate retention, student internships, joint publication and commercial income relating to the region. The OS Stars University Rankings awards HEIs for achievements in specific areas, which include (in addition to research) graduate employability, social responsibility and inclusiveness. Thus, social responsibility measures HEIs' engagement via investing in the local community, charity work, regional human capital development and raising environmental awareness. In 2019 *Times Higher Education* launched its University Impact Ranking. It measures schools' activity aligned with 11 of the 17 UN Sustainability Development Goals. Although these developments should be welcomed and encouraged, at present they rather reinforce the peripheral importance of the third mission of HEIs in comparison to research activity. This is evident from the fact that these are additional

rankings, whereas the main rankings of both *Times Higher Education* and QS continue to put stress on research productivity and academic reputation. Additionally, the measurement of social impact relies predominantly on data reported by the HEIs themselves, which seriously puts their reliability into question. Attempts to measure the societal impact of HEIs sharpen the fundamental problem of all rankings, namely that they rely only on quantitative indicators. There is good reason to argue that:

> [t]here is something dehumanising in seeking to put a number on *every* particle of human activity, however worthy the aim; and finding the appropriate balance between quantitative and qualitative modes of evaluation is task that demands constant vigilance and negotiation (Stephen, 2019, blog post).

8.4.3 (Global) Rankings Do Not Encourage Diversification of Higher Education

Data show that, since the beginning of the twenty-first century, the number of students in higher education has more than doubled with much of this expansion taking place in newly established HEIs (Altbach, 2019). Most of these institutions are local with a main focus on teaching and widening access to higher education for diverse social groups. Having in mind the fact that global rankings overemphasise research productivity, it is out of doubt that most of these new HEIs would not appear in them as their missions are at odds with the rankings indicators. Additionally, "[n]ewer and smaller universities, especially in developing economies, and institutions without these specialisations, have limited opportunities" because "without massive financial and other resources, it is almost impossible for academic institutions to improve their ranking status" (Altbach & Hazelkorn, 2017). Thus rankings represent "*disparities in resources and the unevenness in the global production of knowledge*, the effect of which is to legitimize such inequities" (Hazelkorn, 2018, p. 18, emphasis added). Those new universities which have succeeded to find a prestigious place in the global rankings, as for example Jacobs University in Bremen, Germany, are research-intensive with a strong international orientation.[1]

[1] However, the recent developments in Jacobs University in Bremen have demonstrated how difficult it is for a young university to preserve such a profile. The University has fallen under severe financial stress because neither the foundation behind it nor the Land of Bremen want to fund it any longer, see: https://www.forschung-und-lehre.de/politik/jacobs-stiftung-foerdert-privatuni-nicht-mehr-2931/

8.4.4 (Global) Rankings Do Not Take into Account the Value Added Achieved by HEIs and Are Susceptible to the 'Halo' Effect

(Global) rankings do not pay attention to the different starting positions of HEIs. Most importantly, they do not reward the development, degree or speed of improvement and performance. For example, nearly all HEIs in Central and East European countries started out at low positions or have yet to succeed in being included in the rankings. So, it is important for them to have as an incentive a measure of the value rankings add to their performance, even if they might fail to find a place in the top positions.

Global rankings are susceptible to the 'halo' effect. Two of the global rankings – *Times Higher Education World University Rankings* and *QS World University Rankings* – work with reputational indicators. However, as a rule, studies measuring the prestige of HEIs reproduce prestige that has already been established, regardless of actual achievements. According to Marginson (2014, p. 46),

> [r]anking reinforces the advantages enjoyed by leading universities. It celebrates their status and propels more money and talent towards them, helping them to stay on top. It is difficult for outsiders, emerging universities and countries to break in. Rankings are not "fair" to competing universities. The starting positions are manifestly unequal.

8.4.5 Rankings Affirm a Narrow or Misleading Definition of Quality of Higher Education

Comparative studies on rankings (Marginson, 2014; Usher & Savino, 2007; Van Dyke, 2005) have definitely shown that these systems differ in their goals, scope, methodology and the kind and reliability of data used. These differences are so great that no two systems are alike and, between systems, there is not even a single coinciding indicator (Usher & Savino, 2007, p. 28). All classifications claim to rank HEIs by quality – 'the best universities', 'top 100 universities', 'top 500 universities'. But not a single ranking gives a definition of quality of higher education, and there is no generally shared understanding on this concept or how it should be measured. As Hazelkorn (2015, p. xvi) rightly outlines:

> [l]ots of data is being collected, and there are plenty of indicators, but there is no internationally agreed definition or methodology, no objective or value-free set of indicators, and no common international dataset.

Looking at how the indicators used are related to the concept of quality of higher education, we can identify the following trends. (1) Although to a lesser degree than other rankings, global rankings include indicators related to the conditions, prerequisites and results of quality education. (2) All global rankings employ indicators for measuring research activity, and moreover, it is given very great importance. (3)

Unlike national rankings, global ones have no indicators based on the opinion of students about the quality of the teaching process. (4) Global rankings use no indicators that directly reflect the quality of educational results, whether this can be assessed by an external, independent assessment of the knowledge and skills of graduates or by considering their professional realization. The only exception to this feature is found in the Academic Ranking of World Universities of Shanghai Jiao Tong University, which includes as indicators the alumni of an institution who have won Nobel Prizes and Fields Medals.

In recent years, through the project "Assessment of Higher Education Learning Outcomes" (AHELO) of the Organization for Economic Co-operation and Development (OECD), an attempt was made to achieve some form of unified measure of the knowledge and skills of graduates, similar to the Programme for International Student Assessment (PISA) survey of students in secondary education (Tremblay et al., 2012). However, the assessments obtained by the feasibility study are rather contradictory, and many scholars have defined it as a failure. Philip Altbach (2015) argues that, because courses and curricula vary significantly across countries, "AHELO would be testing apples and oranges, not to mention kumquats and broccoli". The presidents of leading US and Canadian universities pointed out that "AHELO fundamentally misconstrues the purpose of learning outcomes, which should be to allow institutions to determine and define what they expect students will achieve and to measure whether they have been successful in doing so" (Husbands, 2015). In turn, the supporters of AHELO feel that institutional opposition to AHELO is:

> a defense of privilege: top universities know they will do well on comparisons of prestige and research intensity. They don't know how they will do on comparisons of teaching and learning (Usher, 2015: 1).

This intensive discussion has once again clearly demonstrated the difficulties arising in defining and measuring quality of higher education, as well as the fact that the ranking systems do not represent a neutral technical instrument but serve as a basic mechanism for the affirmation and redistribution of positions in higher education.

8.5 Discussion and Concluding Remarks: Is a Focus on Missions Instead of Rankings Possible?

Drawing upon the institutional perspective towards higher education, this chapter has elaborated a multidimensional model of the missions of higher education. The model is an attempt to provide a broader vision for higher education which acknowledges the intrinsic, instrumental and transformative/empowering role of higher education as an institution at both individual and societal levels. The developed model of the missions of higher education is used as lens for critical assessment of global rankings as: (1) neglecting the diversity of HEIs in terms of their missions, goals

and structures; (2) affirming a limited understanding of the public benefit derived from higher education; and (3) promoting a misleading understanding of quality of higher education.

Some authors claim that "the 'naturalness' and 'inevitability' of rankings are political positions" and that the "assertion that 'rankings are here to stay' is not an objective representation of reality" (Amsler & Bolsmann, 2012, p. 291). In an article published in *University World News* in 2017, two of the leading scholars in the field of higher education and university rankings – Philip Altbach and Ellen Hazelkorn – strongly argue that it is high time for HEIs to forget about and even quit rankings and that they should "*focus on missions, not on ranking*". Based on the discussion above, this claim sounds reasonable and desirable. However, is this feasible or plausible, having in mind the development of higher education and its place in contemporary, highly dynamic and knowledge-intensive societies? Below are some arguments that, even if HEIs manage to 'forget' about rankings, they will hardly be able to quit them nor undermine their public and institutional importance.

The first argument refers to the specificity of higher education as a field. Adhering to the neo-institutional framework, Gonzales and Núñez (2014, p. 5) define higher education as a cultural field and outline that, as such:

> it does not produce goods that are easily or objectively measurable. Unlike an organization that might produce pencils or cars, post-secondary organizations produce knowledge through highly social, interactional, and tacit processes of teaching and learning.

Thus, neo-institutionalism explains the importance HEIs put on rankings and the power of rankings with the fact that they mirror the specificity of higher education as a social field and provide cultural resources, for example legitimacy and prestige, to HEIs in their aspirations for success. According to some authors, "prestige is to higher education what profit is to corporations" (Gonzales & Núñez, 2014, p. 5).

Secondly, the neo-institutional perspective also outlines the way HEIs have been developed over the last century as increasingly rationalised organisational actors embedded in an international environment. Thus, Ramirez (2013, pp. 143 f.) argues that the key to the puzzle "Why are universities now ranked? And why are they ranked across national borders?"

> lies in the movement from national, historical institutions to rationalized organizations. The general idea is that the more any entity is imagined as a rationalized organization, the more it is at risk of being compared to other entities. . . the rationalized organization image undermines the historicity and distinctiveness of the entities by dangling portable "best practices" before them. What are then compared are aspects of the entities rather than the entities as a whole.

Thirdly, the power of rankings not only within the higher education sector but also among nation states resembles the increased importance of higher education in knowledge-based societies. As Hazelkorn (2018, p. 17) emphasises, higher education's "foremost role in talent maximization and knowledge production makes it integral to national and global power relations". She further explains that:

> *HE is at the centre of geopolitical relations, transformed from being a predominantly social institution with a local or subnational remit to being the cornerstone of economic policy with geopolitical responsibilities…* Institutions and nations are measured against each other, highlighting comparative and competitive global advantages and disparities in capacity and capability, and reflecting a world-order in flux (Ibid, p. 16, emphasis added).

Having top-ranked HEIs can improve country's international prestige and reputation. As Cantwell (2016, p. 316, emphasis added) outlines "*rankings constitute one marker of state power*". They also "may boost a state's soft power insofar as the rankings represent a nation's higher education system as strong or 'excellent'" (ibid, p. 317).

Fourthly, when discussing whether HEIs can 'forget' about rankings and quit them, we should pay attention to the fact that rankings and their results have become a valuable 'currency' in the relationships within the higher education sector and between HEIs and their 'clients' (students, employers, governments). Many of the indicators used in rankings (e.g., citations, publications, projects, grants) are widely present and applied within HEIs for individual academic promotion and department evaluation and, thus, they strongly effect knowledge production (Gonzales & Núñez, 2014; Ramírez, 2013). 'De-coupling' of HEIs from the pressure of rankings would be difficult to achieve:

> due to their over-determining influence on institutional status and reputation, student choice and graduate recruitment, the views and opinions of government, employers and peer institutions, and overall societal confidence in institutions (Hazelkorn, 2018, p. 9).

Fifth, even if some HEIs stop paying attention to rankings, this will not mean that they will cease to be visible or become invisible in them due to one simple and more technical reason – the fact that the most prestigious rankings use data from big research data sets and from reputational surveys. The main global rankings do not rely on data obtained from HEIs and, in this sense, they do not depend on 'their will' but on data which are available and easily accessible.

When discussing the role of rankings in the strategic development of HEIs and their mission statements, it is worth recalling an interview with Nunzio Quacquarelli – the founding partner of Quacquarelli Symonds (QS), which launched the annual World University Rankings in 2004 with the then *Times Higher Education Supplement.* He said:

> What we've been surprised by is the extent to which governments and university leaders use the rankings to set strategic targets. We at QS think this is wrong. Rankings are a relative measure – if other universities do better and move up, you have to go faster… *Ranks should not be a primary driver of university mission statements and visions.* But ranks can be a useful provider of data (Quoted in Sharma, 2010, emphasis added).

The most important criterion fused in global rankings is the research productivity measured mainly by the number of publications indexed in world research platforms and by the number of citations. This raises the following crucial question regarding the national higher education policies: What kinds of HEIs figure in the concrete national system of higher education, and how are they defined in terms of the performed research? In formulating countries' stances on this question,

policymakers and the academic community in each country should well have in mind the opinion of leading researchers that "[un]evenness in research performance is inevitable, if not necessary to creativity itself" (Marginson, 2011: 32). But they should also take into consideration that:

> [e]xperience indicates that it is not possible to create several world-class universities (with prospects for a sustainable future) in any one country without investing in the national higher education system as a whole (Yudkevich et al., 2015, p. 415).

Rankings are certainly an important source of information and an instrument for measuring and comparing the achievements of HEIs by certain indicators. But they are only one of the mechanisms – and not a perfect one at that – for assessing the quality of higher education. That is why a great challenge for policymakers and for the academic community is to strengthen and use rankings to stimulate, not to penalize, the development of concrete HEIs and national systems of higher education.

The clash between the missions of higher education and the way HEIs are assessed by (global) rankings raises some important questions which deserve further and in-depth investigation:

> How can, and how should, quality of higher education be defined?
> How can strategic thinking in higher education be promoted in the context of the daily struggle with financial constraints and bureaucracy?
> How can the values of diversity, quality and social justice be simultaneously maintained in higher education?
> How can the missions of HEIs be diversified and further developed by incorporating a bottom-up approach that acknowledges not only the instrumental but also the intrinsic and transformative/empowering value of higher education at both individual and societal levels?

The globalising world we are living in has created a radically new social environment. In the words of Bauman (1997, p. 25), the post-modern world is a "multivocal world of uncoordinated needs, self-procreating possibilities and self-multiplying choices", "a world in which no one can anticipate the kind of expertise that may be needed tomorrow". In such a world, he continues:

> the recognition of many and varied ways to, and many and varied canons of, higher learning is the condition *sine qua non* of the university system capable of rising to the postmodern challenge… [Therefore,] it is the good luck of the universities that there are so many of them, that there are no two exactly alike… (Ibid.).

It is obvious that there is no perfect ranking and – what is more important – no single ranking can take into account all different models of HEIs. That is why the diversity of HEIs' missions and roles can be captured only by a diversity of rankings and their complementarity with other instruments for accountability and transparency.

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Chapter 9
Universities, Sustainable Development and the 'Knowledge Turn' in Global Governance – Causes, Mechanisms and Risks

Mike Zapp

9.1 Introduction

Since the late 1990s, the notion of the 'global knowledge economy' has seen wide proliferation among media, policymakers, international organizations and those actors where knowledge has traditionally been produced – universities and research institutes (Frank & Meyer, 2007, 2020). Research and innovation systems, with the modern 'super research university' at their core, are considered crucial in equipping economies for the twenty-first century (Baker, 2015).

I argue that the strong premium on the economic benefits of the scientific expansion in these accounts obscures other transformations at the level of universities worldwide. This chapter holds that, in the recent period, universities have entered the global governance landscape by strategically positioning themselves as global knowledge actors. This new role contrasts with an older idea of the university as a socially-buffered national entity of public administration serving a small cohort of the population, particularly in Europe (Ramirez, 2002). By contrast, this new type of university transforms itself into an organizational *actor* which is increasingly autonomous, goal-oriented, accountable and socially-embedded (Bromley & Meyer, 2015; Krücken & Meier, 2006).

While these traits apply to organizations across (public and private) sectors, universities represent a special form of organizational actorhood. One of their primary mission has always been and increasingly consists of acting on behalf of *others*. University agency is often directed to other actors which cannot act for themselves (e.g. the disadvantaged) or non-actor entities (e.g. the environment) as well as key

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principles of modernity (e.g. progress and justice) (Meyer & Jepperson, 2000; Meyer, 2019; Zapp, 2020a).

Imbued with the mission of 'otherhood' and supported by a growing reliance on evidence as a new basis of policymaking, it seems that universities are embedding themselves with ease into the complex web of global governance actors. Equipped with universalistic and applicable knowledge and undergoing profound internationalization in structure, staff, students and knowledge, academic expertise meets growing demand across policy areas, notably sustainable development.

Universities have discovered their new role as knowledge providers for global problems partly to live up to the noble goals of this century-old institution but also, more pragmatically, to fill drained funding lines. Policymakers and funding agencies now require research with 'societal impact' and media (e.g. Times Higher Education) have begun to assess universities not only by their excellence but also in terms of their contribution to solve urgent social problems (Watermeyer, 2019).

This chapter reviews the causes for such a change in the role of the university in the twenty-first century and maps out a number of mechanisms that illustrate the new role of universities. The current UN Sustainable Development Agenda can be considered a catalyst of universities' commitment to global governance and will serve as an example. In this context, I highlight four phenomena. First, universities increasingly align their research to the demands of the global governance agenda, namely the SDGs. Such alignment not only concerns substance, i.e. research objects but also research collaboration, which now often includes key actors in global governance, i.e. international intergovernmental (IGOs) and non-governmental organizations (INGOs). Here, university knowledge slowly penetrates governance in contemporary world society.

Second, higher education institutions also transform their teaching reflecting their mission to train a new generation of experts to deal with problems on a global scale. Universities directly contribute to global governance by professionalizing globalization. They train students in international law, business, and economics, but also in global health and climate change management. As transmitters of a genuinely post-national epistemology, they socialize entire cohorts in a new global frame ready to enter increasingly borderless labor markets.

Third, universities undergo profound internal change. Long only discussed in the for-profit sector, (corporate) social responsibility becomes increasingly routinized in university development in terms of, for example, employment policy, campus construction, sustainability management and student life.

Finally, while universities have seen an associational and networking trend for some time now (Brankovic, 2018), more recent alliances often reflect universities' new mandate as global governance actors banding together with other universities, IGOs and INGOs in SDG-targeted partnerships to create knowledge-practice synergies.

However, while a stronger premium on knowledge in globalized policymaking might have its benefits compared to traditional forms of decision-making (e.g. charismatic leadership), such science-based or 'epistemic' governance does not come without risks. When scientization of politics is reversed and science becomes

politicized, the strategic instrumentalization, manipulation and even oppression of knowledge by policymakers threatens scientific authority (Cozzens & Woodhouse, 1995; Normand, 2016). Recent examples of fake news, fake science and pseudoscience in the proximity of illiberal and populist polities reflect the vulnerability of scientific work.

Another risk emanates from the paradoxical situation in which, on the one hand, universities and their knowledge become increasingly globalized, while, on the other hand, policymakers proudly champion their universities as powerhouses of the national economy and figureheads of innovation and progress. This leads many countries to strategically invest in higher education and research to attract foreign investments and to export knowledge (Knight, 2018). With university knowledge becoming an important resource and asset in the global economy, the inter-university race for reputation, revenues, and researchers is oddly transposed to an unlevelled global geopolitical playing field (Moisio, 2018).

9.2 From Traditional Governance to Global Epistemic Governance

Global governance scholars have long neglected the knowledge dimension in the international sector. In the hard-boiled world of international relations scholarship where powerful nation-states compete (as in realist and classical Marxist perspectives) or negotiate rational solutions to reduce transaction costs and coordination problems (as in liberal perspectives), little attention was given to underlying epistemic mechanisms (see Zapp, 2017a, b for a review).

With the rise of a constructivist perspective in IR and a more integrated research agenda on globalization, particularly from the so-called world society scholarship, the focus shifted from 'hard', i.e. coercive or regulative, governance mechanisms to 'softer', i.e. normative, cognitive or epistemic governance mechanisms. In these accounts, the construction and power of ideas, knowledge, meanings, norms and cultural models take center stage (Barnett & Finnemore, 2004; Meyer et al., 1997; Parreira do Amaral, 2010; Wendt, 1999). Revising these traditional governance theories has also shifted the focus away from the traditional areas of security and economics now extending the analysis to an increasing number of globalized policy sectors, such as social policy, health, the environment as well as education and science.

The scholarly interest in knowledge construction as an analytical exercise and empirical task to understand globalization and global governance coincides with the diagnosis of global knowledge economy – one of the key narratives of the more recent period (Frank & Meyer, 2020). Although the precise causal links of such a knowledge economy are often awkwardly theorized by economists, a growing body of research documents the large-scale expansion of a highly educated labor force which transforms jobs, entire labor markets and many social and political domains

toward the 'schooled society', thus going far beyond the immediate economic gains (Baker, 2014).

It is beyond any doubt that policymakers seek to harness knowledge both as an economic resource (see below) but also to provide policymaking with the legitimacy and authority of science mainly derived from its universalism, independence, skepticism and disinterestedness – logics which are almost diametrically opposed to those reigning in politics (Merton, 1973 [1942]). Whether national policy-makers and educational administrators are *genuinely* interested in scientifically buttressing their decisions is difficult to ascertain, yet the notion of evidence-based policy-making has spread quickly across various policy areas (Drori et al., 2003; Normand, 2016; Zapp et al., 2018).

Driven by various stakeholders' demands but also by their own ambitions, universities increasingly become active players in national and global policymaking. The following section identifies these stakeholders and identifies processes of such university actorhood.

9.3 The University as a Knowledge Actor in Global Governance

I argue that universities have begun to take on a new role in global governance by occupying a niche in extant structures by specializing in the provision of scientific, applicable and policy-relevant knowledge. This transformation is catalyzed by various driving forces both in the environment of universities but also within these themselves. I highlight government and funding agencies as well as ranking agencies as the main environmental actors involved before elaborating on university actorhood in more detail.

9.3.1 Governments and Funding Agencies

Although research evaluation systems or performance-based research funding systems (Hicks, 2012; Whitley & Gläser, 2007) are relatively recent developments, they are transforming research and scientific production around the world. These evaluation systems assess the merit of science according to national and international standards of excellence and, importantly, the societal impact of research (Watermeyer, 2019).

In his analysis of the oldest and most comprehensive research evaluation system, the British Research Excellence Framework (REF), Marques et al. (2017) finds that, over time, the notion of economic, cultural and social impact has increased. First discussed in 2009, it became the second most important score in REF 2014 and is considered to grow in importance for the upcoming REF 2021. Similar trends can

be found in many other European countries (Zapp et al., 2018). It seems that debates about the accountability, quality and relevance of the contemporary university find its confluence in the notion of impact and universities have begun to incorporate the new vocabulary in their organizational identity and incentive structures (Bornmann, 2012).

9.3.2 Ranking Agencies and Media

International ratings and rankings that emerged in the past two decades provide commensurable schemes for inter-organizational and individual comparison while creating new logics of quantification, distinction and stratification (Espeland & Sauder, 2007; Hazelkorn, 2015). As much as they fuel anxiety among some institutions, they catalyze competition and internal organizational change among others.

It has gone largely unnoticed in the literature that parallel to the shift in national funding priorities, the strong weight of research output in many rankings has recently been complemented by a new focus on wider university impact. Since 2019, one of the most prominent international rankings, the Times Higher Education (THE) World University Ranking, measures universities' contributions to the achievement of the UN Sustainable Development Goals (SDGs). This novel ranking includes, among other areas, indicators of universities' work towards gender equality, climate action and sustainable cities and communities. The most recent league tables are based on surveys of almost 800 universities from 85 countries around the world (THE, 2020). The THE methodology includes, for example, universities' policies on academic freedom, their use of secure employment contracts and share of senior female academic staff. According to the THE editors, the new SDG-university ranking "is the world's first global attempt to document evidence of higher education impact, offer a new way of defining excellence and recognize the fantastic work that universities do for the good of society to tackle some of our most pressing global issues" (O'Malley & Mitchell, 2019, no page).

9.3.3 University as 'Actors' and 'Others'

While universities arose as transnational institutions, they came under the control of state authorities in the context of European nation-state building (Riddle, 1993; Rüegg, 2004). The subsequent institutionalization of the nation-state system worldwide further accelerated the "nationalization" of the university and the knowledge it produced (particularly in the social sciences and humanities) (Heilbron, 2014). However, during the twentieth century, especially its second half, the university became re-embedded in a more globalized social and political environment. The idea that society was exclusively national lost purchase, and a distinctly global social order emerged, to which the university was central (Meyer et al., 1997; Frank

& Meyer, 2007; Zapp & Lerch, 2020). Indeed, national policymakers' discourses have shifted from a focus on national development to one of global competitiveness including in the burgeoning private sector (Buckner & Zapp, 2020).

This recasting of society in global-individualist terms also redefined the role of the university in more globalized terms, including the objects of university knowledge. Testament to this shift, an analysis of over 700 UNESCO documents found that global discourses about universities shifted greatly between 1960 and 2010 (Buckner, 2017). In the decades following World War II, the emphasis was on "national development and universities were viewed as serving their local communities and regions," (Buckner, 2017, p. 484) but by the 1990s and 2000s universities were seen as "contributing to human development worldwide" (Buckner, 2017, p. 487).

These changes in the wider environment pose new challenges but also offer new opportunities for universities. Higher education institutions are facing pressures to become more autonomous, accountable, excellent, relevant, and international (Zapp et al., 2018). Confronted with stagnating funding, they diversify their sources and strategically position themselves globally through inter-university networks and elaborate internationalization strategies in an attempt to reduce uncertainty in an increasingly globalized and stratified field of higher education.

Many critical contributions see in universities' reaction to these pressures a desperate move toward more entrepreneurialism and managerialism in times of neoliberal public downsizing (Clark, 1998; Deem, 2001; Olssen & Peters, 2005). While such structural reforms as privatization, industry linkages, international recruitment and part-time contracting indeed do seem to be born out of a neoliberal template, I agree with scholarship that identifies a more profound transformation at work. In this view, universities are being re-conceptualized from 'specific organizations' of public administration (Musselin, 2007) to 'normal', 'complete', and even 'empowered' organizations (Musselin, 2009; Ramirez, 2006).

In this line of research, organizational actorhood becomes the main theoretical tenet (Krücken & Meier, 2006). Actorhood, here, describes organizations' structural and behavioral expansion by including autonomy, goal-orientation, accountability and social embeddedness or citizenship as part of their core identity (Bromley & Meyer, 2015). Indeed, a growing empirical body gives testimony to cross-national trends that reflect these new organizational traits. In part, these studies are linked to the notions of impact and relevance touched on above. For example, analyses of mission and vision statements, branding and marketing as well as reforms of formal structure map an organizational form that is in desperate search for a distinctive identity while, in fact, it is converging in mission, substance and structure across the world (see Zapp et al., forthcoming for a review).

The transformation towards organizational actorhood is key in understanding universities' emerging role in global governance. Universities' 'citizenship', 'social embeddedness' or 'responsibility'– as a key component of actorhood – refers to universities' openness to a wide variety of stakeholders and social issues (Bromley & Meyer, 2015; Ramirez, 2006; Sørensen et al., 2019). The counter model – the socially-buffered model – is increasingly under pressure amidst (inter)national

discourses on societal impact, relevance and usefulness and from the market as a mechanism that puts individual student choice before the preferences (and privileges) of the academic "nobility", for instance the professoriate (Lenhardt, 2002, p. 287). Under these new conditions, the university morphs into an organization that pays attention to employees' rights, diversity, work-life balance, environmental policy, an increasing number of associations and identity groups as well as the community in its broadest sense. For example, in 2005, the influential Carnegie Foundation shook U.S. higher education leaders by introducing a new classification for those institutions that engage with the community. Such new classification is meant to fundamentally alter universities' relationship with the wider community (Driscoll, 2009). In sum, university-society relationships become more permeable and 'ivory beauty' increasingly delegitimized.

Seen from a social and organizational theory perspective, the responsible university reflects a particular form of actorhood, usually referred to as *otherhood*. Otherhood, here, refers to the social process of enacting agency for other actors (e.g. nation-states), non-actor entities (e.g. the world's children; endangered species) and principles (e.g. human rights) (Meyer & Jepperson, 2000; Meyer, 2019; Zapp, 2020a). Almost ideal-typically, universities represent all these forms of otherhood. Respectively, they advise (or train students in advising) other actors – namely, individuals, organizations and states – in reforming their lives, organizational structures and policies through therapy, consultancy and policy recommendations with the aim to be healthier, more efficient and more just.

Universities also act on behalf of non-actor entities. For example, research on the children, the unorganized poor, refugees and migrants, special needs groups – in short, social inequality as one of the foundational topics in the social sciences – but also ecological issues do not only constitute the backbone of many disciplines, they also give testimony to science as a tool of empowerment. Finally, science and particularly the social sciences, while trying to be methodologically objective, inevitably show built-in normative principles that advocate human rights, democracy and justice, that is, the core of the liberal society (Suárez & Bromley, 2012).

It is important to note that the role of universities as *others* in global governance is facilitated by the particularity of world society. Lacking traditional mechanisms of control and authority, world society is essentially constructed through such 'otherhood', that is, through the diffusion and mimesis of cultural models, usually revolving around broad goals of progress and justice often provided in a rationalized form by (social) scientists (Meyer et al., 1997). Further, lacking a clear and designated center of power, conventional governance actors (nation-states) share such otherhood with non-state actors, often conceived of as a multi-actor and multilevel global governance architecture in international relations (Barnett & Finnemore, 2004). In such a decentralized and amorphous configuration, universities and science, very similar to international organizations (IOs), have found a particular niche as they are equipped with and provide for the legitimacy and authority of objective knowledge and the cultural models they fill (Zapp, 2020b).

The following section presents mechanisms that illustrate how universities' otherhood activities help rethink the traditional imagery of global governance.

9.4 Mechanisms of University-Based Global Epistemic Governance – The Case of the United National Sustainable Development Goals

The following section presents four mechanisms of university commitment to global governance, namely the UN Sustainable Development Agenda as it marks a qualitative shift in university involvement. Sustainable development (SD) has become the overriding global agenda since 2015 when the 17 SD Goals where agreed upon by all 193 UN member states. Since then, important SD stakeholders have begun to see universities as key contributors in successfully implementing and monitoring the SD agenda and some see sustainability as the single most important 'grand challenge' and even a new kind of third mission of universities (Grau et al., 2017; Kaldeway, 2018; Trencher et al., 2013). Universities worldwide have started to discover their new role and have initiated profound internal changes. These include the alignment of research foci that reflect priorities high on the global governance agenda and a broadened teaching portfolio that meets the demand of professionalizing global governance experts. They also turn toward corporate/ university social responsibility activities and, last, engage in networking activities to jointly act as agents of governance goals together with other universities and research institutes but also IGOs and INGOs. I will briefly review these trends.

9.4.1 Aligning Research: Toward World Societal Impact

As touched upon above, research is increasingly required to be of societal impact. With universities' entering global governance settings and with the SDGs becoming a ubiquitous priority, such impact is now being rescaled to the world societal level and research activity is geared toward these global goals. Some examples are helpful in understanding the kind of research that is now being promoted.

For instance, the University of Manchester is developing a carbon footprint tool in order to identify and manage 'carbon hot spots' worldwide,[1] while the University of British Columbia is working on sensors and software to preserve biodiversity.[2] Similarly, researchers from the University of Auckland collaborate with the shipping industry to trace whales' migration routes aiming at preventing fatal collisions.[3] The KTH Royal Institute of Technology is creating a web-based platform

[1] https://www.manchester.ac.uk/collaborate/business-engagement/knowledge-exchange/case-studies/carbon-calculator/

[2] https://sustain.ubc.ca/about/plans-policies-and-reports/2018-19-annual-sustainability-report/teaching-learning-research-0

[3] https://researchspace.auckland.ac.nz/handle/2292/34693

for teachers to introduce sustainable development in their courses.[4] Importantly, the reorientation of research is happening across tiers and types of institutions including both the prestigious ETH Zurich and its energy-efficiency '2000 Watt Society Project'[5] as well as small, liberal arts Oberlin College's 'Oberlin Project' aiming at creating 'one of the first climate positive cities in America'.[6]

The turn toward SDGs bring universities closer to traditional governance actors including in research. Analyzing the scientific output of more than 1325 international governmental and non-governmental organizations in the period 1970–2017, Zapp (2017b) identifies strong collaboration patterns between IOs and universities. Public universities are the most frequent collaborator for all IOs. On average, 40,000 publications have been co-authored with researchers from public postsecondary institutions.

It seems university academics have become regular partners of IO research and their relationship is recursive. IOs sometimes influence academic research as the case of the OECD and educational research in many European countries has shown (Zapp & Powell, 2016). However, more often, university knowledge makes its way into IO operations. With IOs discovering the power of evidence in thorny political discourses, they turn to universities to support their claims. Analyzing over N = 100 global reports published by IOs in the period 1947–2019, Zapp (2020a) finds that all reports now include references to scientific resources starting in the late 1980s. Some of these reports now resemble genuine large-scale literature reviews with thousands of academic references.

9.4.2 Aligning Teaching: Training for Global Governance

University knowledge immerses students and faculty into a universal collective reality, and legitimizes specialized personnel and indeed entire social sectors within a rationalized cosmological frame (Meyer et al., 2006; Baker, 2014). Importantly, universities train a growing number of global professions which can enter increasingly globalized labor markets.

Many new curricular inventions embrace a world model, as is common in proliferating environmental studies (Frank et al., 2011), global studies, and human rights programs (Suárez & Bromley, 2012) that contrast with the older academic portfolio made up mainly of the humanities and science (Frank & Gabler, 2006; see Zapp & Lerch, 2020 for a review). For example, Oxford University now offers a MSc in Global Governance and Diplomacy, and Copenhagen University has recently started

[4] https://www.kth.se/polopoly_fs/1.828499.1550157688!/Report%20KTHs%20overall%20environmental%20objectives%202017.pdf

[5] https://ethz.ch/content/dam/ethz/special-interest/mtec/cepe/cepe-dam/documents/research/projects/project_7742.pdf

[6] http://www.oberlinproject.org

its MSc in Climate Change.[7] In 2019, KTH Royal Institute of Technology has just launched a new MA program in Sustainable Technology[8] and the University of Manchester offers MOOCs on Water Supply and Sanitation Policy in Developing Countries as well as Global Health and Humanitarianism.[9]

In their sustainability report, the University of Bologna[10] presents 1174 course units related to the SDGs. Some universities also offer Ph.D. programs on sustainability such as the University of McMaster's program in Global Health[11] or Gothenburg's interdisciplinary Ph.D. program From Research to Policy for Sustainable Development.[12] Add to this summer schools, internships, hackathons, awards and prizes, student associations, staff capacity building and other formats that emerge as part of universities' SD agenda.

In a larger context, analyzing N = 465,000 study programs worldwide, representing almost the entirety of the global higher education offer, Zapp and Lerch (2020) identify more than N = 22,451 study programs that explicitly offer degrees with some form of international orientation (e.g. international business, comparative law, global development, intercultural education).

Universities and university-trained global experts produce authoritative evidence and increasingly advance opinions in global debates but they also apply it back to their universities and campuses to which I now turn.

9.4.3 Aligning Internal Policies: The Responsible and Sustainable Workplace

Next to teaching and research, analyses of universities' additional missions have long unduly been confined to industry links. Universities' social responsibility has become a strong feature in the past two decades. As introduced above, an organization's social embeddedness (Ramirez 2006), citizenship (Bromley & Meyer, 2015) or responsibility (Sørensen et al., 2019) refers to its openness to a wide variety of stakeholders and social issues. Corporate social responsibility (CSR), long only discussed in the context of corporations, is slowly being used as a concept to interpret universities' internal changes (Larrán & Andrades Peña, 2017; Wigmore-Álvarez & Ruiz-Lozano, 2012). In recent years, CSR policies have emerged at universities

[7] https://www.ox.ac.uk/admissions/graduate/courses/msc-global-governance-and-diplomacy?wssl=1, https://www.hnee.de/en/Programmes/Master-degree/Global-Change-Management/Global-Change-Management-M.Sc.-GCM-E1841.htm, https://studies.ku.dk/masters/climate-change/

[8] https://www.kth.se/en/studies/master/sustainable-technology/description-1.8721

[9] https://www.manchester.ac.uk/study/online-blended-learning/what-you-can-study/moocs/

[10] https://www.unibo.it/en/university/who-we-are/report-on-un-sdg

[11] https://globalhealth.mcmaster.ca/phd-global-health

[12] https://www.gmv.gu.se/digitalAssets/1460/1460619_from-research-to-policy-for-sustainable-development%2D%2D-phd-course-spring-2014.pdf

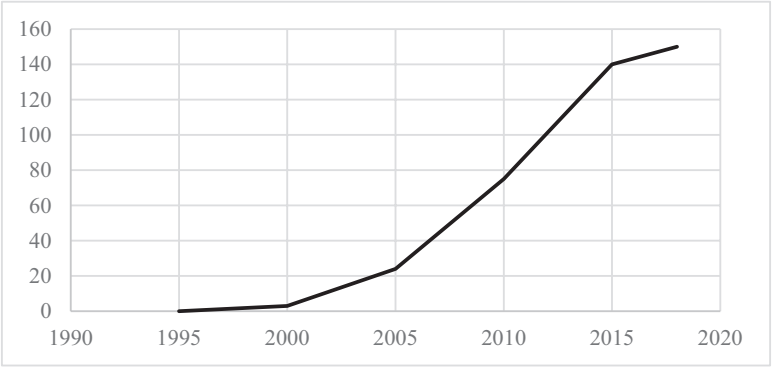

Fig. 9.1 Number of universities with corporate social responsibility charters. (Corporate Register, 2019)

around the world. The Corporate Register (2019), the world's largest CSR report directory, and the Global Reporting Initiative's Sustainability Disclosure Database (2019) together list more than 200 universities from around the world. Most of them reported their CSR activities for the first time in the last 5 years (Fig. 9.1).

These universities come from around the world and include public as well as private, highly prestigious and less well-known universities. Many of these CSR activities concern not only the internal organizational structure but aim at activities like promotion of global awareness, global student engagement and staff capacity building as well as research on global issues and projects focused on the campus-wide use of energy, water, transportation, waste, and food. These initiatives aim at transforming campuses into 'living laboratories' and 'testbeds for sustainability' and are often 'managerialized' and formalized through designated offices and organizational units – a strong indicator of lasting institutionalization (e.g. USRN, 2019).

9.4.4 Aligning Networks: Banding Together to Battle Global Problems

Universities now operate in nested organizational fields where local, national, regional and global levels interlock (Hüther & Krücken, 2016). In this nested field structure, universities increasingly band together in various forms of meta-organizations (e.g. alliances or associations), that is, organizations with other organizations as members. Brankovic (2018), tracing the emergence of university meta-organizations over time, finds 185 such associations, with most of them burgeoning in the past two decades. Some of these are small and exclusive (e.g. Universitas21 or League of European Research Universities), others are larger and span entire continents. (e.g. Network of Universities from the Capitals of Europe or the Association of African Universities) or even have a global scope (e.g. International Association of Universities) (Gunn & Mintrom, 2013; Jungblut et al., forthcoming).

Many of these associations not only come with benefits for their members but also involve costs and commitment stressing universities' genuine interest in promoting the cause of sustainability. Universities' now routinely engage with governments, international organizations, civil society, industry and, obviously, other universities. A growing number of universities join the UN Sustainable Development Solution Network (UN SDSN) which brings together universities, governmental agencies, research institutes and I(N)GOs to develop but also to promote policies and solutions for SD.[13] In addition, the International Association of Universities (IAU) hosts the Higher Education and Research for Sustainable Development Initiative, which lists hundreds of universities that already act in these matters. It also serves as a platform and hub for myriad higher education coalitions committed to sustainability and its Iquitos Statement details how universities can contribute to the broader UN missions.

The role as world society others is clear in many ad-hoc coalitions. For example, the first World University Congress brought together 250 universities from 50 countries to discuss the responsibilities and duties of universities in the face of global problems including global warming, terrorism, poverty, migration and health (COMU, 2019). Another example is the case of UC3, a network of leading North-American universities recently established to tackle climate change problems.[14] Universities for Poverty Alleviation also brings together academia, NGOs and companies to serve the local and international community (UPA, 2019).

In general, such new associational trends underline the novel role of universities as globally active and interconnected nods where public, private, governmental and non-governmental, local, national and regional overlap. Interestingly, while THE World University Impact Ranking 2019 (based on 11 SDGs) allows universities to self-select 10 SDGs, one indicator – SDG 17: partnerships for goals – is compulsory to report on. It seems that universities, while driven by competition to band together in exclusive circles, also start to team up for the public good of global progress.

9.5 Discussion: On the Consequences and Risks of Global Epistemic Governance

The major shifts toward a stronger role of universities in global governance described in this article may offer the historical opportunity to replace traditional power-based and charismatic forms of authority and decision-making with rational knowledge. Yet, the impartiality and universality of science, not least its epistemological core, are challenged by strategies to instrumentalize and undermine science for political purposes and by nation-states' attempt to (re)gain the university as a symbol of national grandeur and geopolitical positioning. I will elaborate on these perils.

[13] https://www.unsdsn.org/networks-overview

[14] https://secondnature.org/initiative/uc3-coalition/

The increase in importance of academic knowledge for policy-making, often referred to as evidence-based policymaking, has been described as the scientization of politics (e.g. Normand, 2016). At the same time, such scientization also harbors the risk of the politicization of science (Klees & Edwards, 2014; Cozzens & Woodhouse, 1995). Policymakers borrow the authority of scientific research to bolster political action and, conversely, scientists find in such political interest opportunities to refill drained funding lines, to win internal funding battles and to increase their own legitimacy and leverage in global governance. Thus, stressing the role of research in global governance does not imply that these discourses have become depoliticized spaces.

Evidence is often complex, ambiguous, fragmented and context-dependent, which makes science vulnerable to manipulation, contestation and even outright oppression. These three forms of the science-politics nexus are increasingly supported by empirical data. First, in what has been called epistemic drift (Elzinga, 1997) researchers seem to align their interests to external demands often sacrificing their own internal agenda. Conversely, policymakers may draw only very selectively on scientific evidence in order to support their own agenda (Steiner-Khamsi et al. 2020). Second, evidence might be fabricated or at least produced with very specific anticipations in mind. For example, research on the impact of school privatization at the IO-level may, in some instances, produce highly predictable evidence in accordance with the authors' political leanings (Zapp, 2020a). Similarly, it has become a popular populist knee-jerk reaction to reject facts while providing 'counter-evidence'. Presidents Trumps and Bolsonaro's repeated refusal to accept climate change as a scientific consensus or to listen to public health expertise in the current COVID-19 pandemic while pointing to alternative facts and findings are particularly instructive examples (Barerra et al., 2020; Hopf et al., 2019). Finally, some authoritarian and illiberal regimes interpret universities as pursuing a political agenda and have begun to overtly oppress academic institutions. The recent banning of gender studies from university teaching, the hassling of the international Central European University as well as the tight government grip on the Academy of Science in Viktor Orban's Hungary might be one prescient and recent example (Scholars at Risk, 2019).

These variants of the science-politics nexus show that with university knowledge increasingly pervading modern societies and with universities taking a more active part in public debates, the relationship with their surrounding environment has grown thornier.

Turning to new geopolitical configurations in the global knowledge economy, paradoxically, with the growing centrality of globalized university knowledge in modern societies grows the interest of national policymakers to harness its potential. Nobel prize winners are championed as a national pride (Baram-Tsabari & Segev, 2018; Nietzel, 2019), universities now replace military sites during presidential visits and honorary degrees are given as a diplomatic nicety (e.g. US UK Embassy, 2019). Countries launch "excellence initiatives" and other large-scale research funding programs to boost their science and innovation systems (Zapp et al., 2018; Ramirez et al., 2016), 'education hubs', 'knowledge villages', 'smart

cities' and 'technopoles' are built to attract foreign talent and capital (Knight, 2018; Moisio, 2018), higher education becomes the most frequently included sector in the General Agreement in Trades and Services (WTO, 2020) and the G20 group, representing the most important economies in the world, has recently begun to implement a research scorecard to assess the performance of national research systems (Web of Science Group 2019).

In stark contrast to its epistemological core and presumably in contrast to most scientists' attitudes, the university and higher education become (re)cast as a geopolitical and geo-economical object and commodity. Moisio and Kangas (2016) and Moisio (2018) note that the alleged internationality and globality of knowledge-related spaces and places (including the university) often obscure the territorial claims and market interests held by cities, regions, states and supranational entities. In this sense, actors involved in the knowledge economy – particularly the university – become (often unwillingly) a geopolitical unit of competition between territories of wealth, power and spatial territoriality (Moisio, 2018).

Such reclaiming of the university in territorial categories often works through funding. It is not surprising that scientists – increasingly expected to win external funding – need to simultaneously prove how their research impacts on local, national, supranational and global communities. In some countries (notably the U.S.), such national bias in research has been found across disciplines and research fields and while the curriculum is slowly being internationalized the vast majority of university knowledge, particularly in the social sciences, is still anchored in national and statist frames (Zapp & Lerch, 2020).

Historically, with universities balancing political, religious, student, professorial and market demands, such a more critical view complicates the understanding of this peculiar organizational entity in the twenty-first century where those demands increasingly become pluriscalar. Ironically, while becoming more and more its own master, the university remains the servant of many (local and national, regional and global) patrons with often opposed expectations. It remains a crucial task of further empirical research to assess how the modern university can cope with these pressures while finding its new role as the voice of reason in global discourses.

9.6 Conclusion

In the more recent globalized period, the university has jolted into the global governance arena with sustainable development at its core as a source of evidence, experts, and good practices. At the same time, the more universities globalize themselves and seek proximity to global decision-making, the more national policymakers may try to rein them in, harvest their fruits, if not question the legitimacy of science altogether. If universities want to preserve their unique status as independent knowledge arbiters in global governance and even reshuffle power structures traditionally skewed towards politics and markets, they have to make sure to not only follow the global agenda but begin to actively shape it.

Future research may benefit from delving deeper into the increasingly active and activist role of universities vis-à-vis wider social and political issues. Interestingly, parallel to the populist backlash and growing commodification of higher education, students, academics and even university leaders have begun to take a strikingly overt role in recent public controversies around the world including 'Rhodes Must Fall', 'Black Lives Matter', '#MeeToo', 'Scientists for Future', and Covid-19. Whether such new activism is a response to the new political climate or even at the root of the anti-scientific tilt among particular political leaders would be an important task for further research interested in the future role and significance of universities in modern societies.

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Chapter 10
Imaginaries of Education and Innovation in the European Union

Xavier Rambla

10.1 Introduction

The connections between geography, politics and knowledge have driven the most influential current trends in the fields of innovation and education policies. These connections are far from intuitive through the lens of Western scholarship, however. Although it has long been recognised that international borders and administrative units link geography and politics, the role of knowledge has been largely neglected.

Postcolonial scholarship and critical geography have opened a fruitful conversation on the connections between these three concepts (Mignolo, 2002; Moisio, 2019). This analysis builds on these to offer insight into innovation and education policies within the European Union. Significantly, current debates on these policy domains retrieve the geographical concept of region, expand the reach of politics beyond the nation-state, and unveil intricate links between knowledge and politics.

In this chapter I claim that the innovation and education policies of the European Union are currently undergoing two interrelated processes whereby complex configurations of policy actors focus on 'regions' as institutional units. On the one hand, these policy actors look for legitimation, engage in complex configurations of political relations, and select more and less important issues by means of policy instruments such as performance indicators, in ways that convey a particular mode of expert knowledge. On the other hand, the functions of policy design, implementation and evaluation migrate in different directions across the main geographical scales of governance; namely, localities and regions, member states and the EU itself. The first two sections of the chapter outline the main aspects of these two

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trends. Then, subsequent sections analyze notable implications for innovation and education EU policies.

The European Union (EU) presents a significant case for the study of the relationship between politics, knowledge and geography. The EU is a hybrid institution that mixes features of international organizations and national governments, where core decisions normally require intensive consultations involving the institutional 'triangle' defined by the European Council, the European Commission and the European Parliament. While the Council is similar to an international organization where the heads of member states sit, the Commission is more akin to a national government that deals with standard areas of policy responsibility (e.g. budget, innovation, social rights, economy, internal market). The Members of the European Parliament are elected every 4 years. The Council issues recommendations addressed to the governments of the member states themselves. The Council chooses the president of the Commission, and the member states choose the commissioners, but the Parliament must approve the whole team.

Since the 1950s, the Commission has asked experts to participate in workshops in which guidelines for action are devised and issued. The area of education runs a panel of regular workshops that have inspired the tenets of the recently approved European Education Area, which prioritises cooperation in lifelong learning, language training and digitalization. The contribution of experts to these workshops has led the statistical office, EUROSTAT, to measure a large variety of issues regarding education and innovation across the member states and in specific regions within the states. On the grounds of this collaboration between experts and policy-makers, the Commission has drawn an array of maps that classify member states and regions according to relevant indicators and core priorities.

10.2 Performance Indicators as a Policy Instrument

Since the Lisbon Summit in 2001, the EU has run 10-year strategic plans that aim to achieve key benchmarks at the level of the whole Union, the member states and the regions. The Innovation Union and Education and Training 2020 have been two of the most high profile examples of the last decade. Crucial to my argument is the observation that these plans construct national and regional maps from which any citizen can identify whether she lives in a region that leads innovation and provides sufficient education and training.

Le Galès (2016) distinguishes a set of policy instruments that combine techniques and power in variable ways. In this perspective, while the technical ingredient of these instruments is not reducible to the power ingredient, they are interrelated. Instruments such as legal and economic discourses, statistics, incentives and communications have their own rationality, but in practice are enacted through social relations between (more or less powerful) people with varying degrees of influence over others.

Performance indicators are a policy instrument that directly draws on scientific and technical legitimacy, and pushes policy actors towards competition (Le Galès, 2016). Indicators constitute rankings that indicate which practices decision-makers should adopt in order to improve their relative position with regard to other institutional or geographic units. While sometimes indicators measure the success of policy, quite often they signal a problem that had not been identified previously. Through interaction with other actors who have a stake in a given issue, policy-makers choose an instrument to monitor performance indicators in order to reflect on the strengths and weaknesses of the relevant alternatives. This instrument will greatly contribute to shaping the range of these alternatives, thus privileging some of them over others. In this sense, performance indicators become an objective reality that actors can neither invent from scratch nor fashion at will.

Table 10.1 identifies the main characteristics of performance indicators as policy instruments (Le Galès, 2016). Two of them operate by using expert knowledge in the midst of social interaction with other actors (Collins, 2018). The other two constitute social relations in which policy-makers face more opportunities of success if they pursue some objectives instead of other ones.

Experts construct knowledge in continuous interaction with other experts and policy makers. Some professionals become experts insofar as they sponsor certain recommendations that may help to prevent nuclear accidents, decide on social reforms, maintain macro-economic equilibria, tackle climate change, respond to the COVID-19 pandemic and solve many other collective problems. The ways in which experts on innovation and education gain influence is similar to those in a variety of other fields. Their reputation not only depends on their technical mastery but also on how the public perceives the success of these guides for action (Collins, 2018). Performance indicators convey this kind of expert knowledge by showcasing best practices in comparison with average or poor practices (Le Galès, 2016). In Europe, EUROSTAT ranks member states and regions according to their accomplishments in innovation and education.

Performance indicators convey 'theories of change' that highlight how policies activate certain mechanisms in a given context (Pawson, 2006). For some decades, the European Commission and the European Council have gained leverage in various policy areas on the grounds that they have contributed to better regulation by disseminating such theories or causal narratives (Radaelli et al., 2013). Since the 2000s, the literature on education and Europeanization has shown how the EU institutions were creating a European space on these grounds (Dale & Robertson, 2009).

Table 10.1 Crucial dimensions of performance indicators as policy instruments

Type of instrument	Performance indicators, standards and best practices
Legitimacy through interactive expertise	Visible accomplishment through regional indicators Adoption of common 'theories of change'
In-built political relations	Relations between governments and civil societies
Selectivity	Sidelined but relevant issues

Source: Author's elaboration drawing on Le Galès (2016), Collins (2018) and Jessop (2007)

Later on, while the initial educational European education space focused on higher education, the European Commission and the European Council have also fashioned similar spaces in the areas of school, vocational and adult education.

International organizations have promoted some of the best-known theories of change. For example, in the 1980s the World Bank took stock of the comparative rates of return of instructional levels in order to require indebted governments to target educational spending on primary education. The OECD has disseminated a theory of change for economic, innovation and education policies that strongly relies on claims of a virtuous circle that links investment in research, pedagogies that promote creativity and measures that enable a high proportion of young people to graduate in tertiary education. More recently, the Global Education Report has circulated the assumption that many Sustainable Development Goals are interconnected, thus highlighting mutual benefits between education and innovation as well as other goals regarding poverty, health, human communities, consumption and production and the natural environment. In the EU, the Education and Training 2020 assumes that reducing early school leaving and promoting innovation will bring about powerful synergies to enable smart, sustainable and inclusive growth.

Performance indicators indirectly fashion certain relations between governments and civil societies. Civil societies include the business community, private providers of public services, non-profits, social movements and other actors. Performance indicators transform all these actors into stakeholders with a shared objective who adjust their activities to new guidelines. Instead of passing binding pieces of legislation that fix the role of each type of stakeholder, through the use of performance indicators governments attempt to persuade all of them to simultaneously compete and cooperate in order to carry out an activity (Le Galès, 2016). The knowledge that the data convey is expected to eventually embed in social practices.

Finally, a significant aspect of policy instruments has to do with the order of priorities. Policy instruments 'select' relevant policy issues in the arena of public debate and simultaneously induce actors to sideline other issues. Jessop (2007, 217) has convincingly argued that a liberal economic order frames EU employment and economic policy so deeply that it inevitably leads decision-makers to focus on some issues at the expense of others.

10.3 The Geographical Scales of Europe

The European Union has started to use regional rankings at the same time as territorial disparities exacerbated and the power of decision-making shifted between different scales of governance. As far as disparities are concerned, research has documented that the geography of venture capital investment is strongly concentrated in some metropolitan areas and in certain neighbourhoods within these areas (Adler & Florida, 2017). A comparative analysis of learning in the workplace across the member states of the EU has also unveiled divided geographies. This analysis has observed how many workers have a margin of maneuver to make judgements on

their own work. Although this margin is restricted to the level of top management in many countries, in Scandinavia it is widespread across the rank and file. Lundvall and Rasmussen (2016) have estimated an index of inequality in continuous learning at work based on the relative probability of managers to access discretionary learning compared to other employees. In contrast with Scandinavia, such inequality is exacerbated in Anglo-Saxon and South Western European countries. Thus, the challenges of adult skill formation seem to emerge from both the organization of labour and the institutional regimes of public policies, and the combination of these two components is quite different across countries and regions.

Regarding the scales of governance, the power of decision-making has shifted in very complex ways. For instance, since the sovereign debt crisis the EU has gained leverage on financial regulation and monetary policy, which have become an overwhelming problem for some member states. Simultaneously, the EU has asked member states to build partnerships with regional and local authorities in order to deal with employment, innovation and education, which are extremely sensitive to spatial variation. In addition, this functional change has become the context of new struggles for mobilization and representation as well as new designs of public policy (Keating, 2009, 22).

Diverse political forces have underpinned the importance of regions. In Belgium, Germany, Italy, Spain and the UK, specific constitutional designs and ulterior conflicts have endowed regional governments with more responsibilities. In France and some Central and Eastern European countries, the leading impulses have come from technocratic assumptions about the potential of regional governance as such. The strategic relevance of regions to apply for EU funding has also convinced some governments to proceed to regionalization within their countries. The growing protagonism of regions and cities has triggered contentions between those who believe that regional development should be taken out of politics and those who see regions as a privileged space for political mobilization (Keating, 2009, 41–3). Although sheer de- politization has seldom been successful, the role of sub-national authorities has been weakened by ex-ante conditions and top-down evaluations that have constrained the debate and the available alternatives (Sbaraglia, 2017).

The following sections explore the role of performance indicators as a policy instrument that derives some legitimacy from a widely shared ‘theory of change’. Roughly, this ‘theory’ assumes that innovation and education and training are two increasingly complex systems that should co-evolve and generate new synergies. The policy instrument also conveys certain expectations on the relations that policy actors must establish. Finally, the policy instrument enacts powerful patterns of selectivity that privilege some issues while downplaying others. In particular, I want to analyze how policy actors have used performance indicators to construct regions in the midst of social transformations that have exacerbated socio-economic divides between regions in Europe. This theme is very significant in the areas of education and innovation, which as indicated the EU has attempted to link throughout its territory. I will briefly outline the ambitious ideas that portray the potential of an Innovation Union and the economic contribution of the interface between education and training and employment policies (i.e., the Skills Agenda). Then, I will explore

how the key dimensions of performance indicators as a policy instrument have enabled EU institutions to link these two discourses.

10.4 The Innovation and Education and Training Policies of the EU

The Innovation Union and the Skills Agenda are two flagship initiatives of the Europe 2020 Strategy that the European Commission and the European Council have deployed since 2010. The Strategy pursues interrelated and mutually reinforcing goals with respect to employment, research and development, climate change and energy, education and the reduction of poverty and social exclusion. A string of buzzwords condenses the whole approach into the idea of fostering smart, sustainable and inclusive growth (European Commission, 2010).

The Innovation Union has implications for both competitiveness and regional policy. The official standpoint insists on the need to invent new methods, products, approaches and practices that can cope with fiscal problems, changing demographic patterns and emerging challenges in global markets. At the same time, regions are supposed to host the eco-systems of innovation. Thus, this discourse presents regions as sites of economic activity and social interaction between heterogeneous stakeholders (European Union, 2016, 6; European Commission, n.d.).

The Skills Agenda draws on active labour market policies (ALMPs) as well as on the EU Education and Training Strategy. The Agenda recognizes the potential of regions to avail of mutually reinforcing actions in the areas of employment, education and innovation. The Agenda endeavors to increase employment rates and improve productivity scores. It also encompasses education and training, including the challenges of teaching and the popular perception of some programmes such as Vocational Education and Training (VET). The informal occasions for learning in many sites are also a crucial component of the Agenda (European Commission, 2016: 2–3).

A series of Council Recommendations have translated these general principles into the concrete terms of education. These Recommendations have transcended the traditional tight coupling of education with services delivered to minors. Thus, the European Council (2011b) has called for the due consideration of adult education as a fundamental component of lifelong learning. Furthermore, the European Council (2011a) has blurred the distinction between compulsory and post-compulsory education in three significant ways. First, it has emphasized the responsibility of any educational authority for preventing early school leaving from primary education onwards. Second, it has underpinned intervention on the population perceived to be at risk, mostly in lower secondary education. Third, it has encouraged measures to compensate for the consequences of dropping out without basic academic credentials. Overall, this compensation conveys a new understanding of adult education and lifelong learning.

The European Council (2013) Recommendation on the Youth Guarantee Scheme has committed the domains of employment and youth work to deliver education and training to young adults who have already finished their compulsory education. The scheme seeks to ensure that any youth has the opportunity to engage in employment, education, training or apprenticeships within 4 months of leaving school or finishing a job.

Crucial to my analysis is an observation on the governance of the Innovation Union and the Skills Agenda: By blurring previously established boundaries between policy sectors, the interaction of Brussels-based institutions with national and sub-national governments posits a (perhaps not fully acknowledged) array of coordination problems to the actors involved. While Sbaraglia (2017) notes that regional authorities are exposed to new constraints due to increased surveillance, they also face growing problems of coordination that complicate their work as well as that of national and European authorities.

10.4.1 Accomplishing Benchmarks

The Innovation Union and the Skills Agenda have formed part of the vision for the European Union since its inception. In the 1990s, the Treaties that constituted the Union as such also sketched the legal scaffolding of these initiatives. In 2001, the Lisbon Agenda became the first attempt to translate those principles into reality. In 2010, the Europe 2020 Strategy simply followed suit. Over time, statistics have portrayed regions as a privileged site for monitoring the progress of those ideas.

Significantly, EUROSTAT has complemented the member states' Innovation Scoreboard with a Regional Innovation Scoreboard. This tool reflects a very particular accomplishment; namely, their capacity to build an 'innovation eco-system' that aligns education and training with investment, innovation activity and employment in each NUTS2[1] region (Hollanders & Es-Sadki, 2017).

In a similar vein, the educational regional indicators attempt to capture the 'education and training system' of the region, including an estimation of the participation rate of the whole population regardless of age. The indicators are also sensitive to diverse life courses insofar as they take early school leaving into account and estimate employment rates according to 'years since completion of higher level of education' (EUROSTAT, n.d.).

Thus, EUROSTAT draws a series of maps that rank member states and regions according to their capacity to innovate and their capacity to prepare both the young and the adult population. These maps classify the regions according to their score on continuous variables that may be measured across the Union by drawing on common statistical sources. It is quite clear, however, that the resulting indicators can capture neither all types of innovation nor the whole array of life courses. They can

[1] EUROSTAT uses the French acronym of *Nomenclature des unités territoriales statistiques.*

only report on numbers of technical and scientific staff, amounts of resources invested in R + D, and the instructional status of people at a given age.

10.4.2 Sharing 'Theories of Change'

The labels Innovation Union and Skills Agenda convey 'theories of change'. The Innovation Union represents a joint endeavor to build an 'innovation eco-system'. *Inter alia*, such a system should embrace research and market infrastructures within the EU as well as partnerships and coherent strategies that link EU and non-EU actors. In the official view, a common strategy in all these areas will foster the strengths of innovation in the EU. The experts who evaluated this initiative in 2016 considered that the main commitments should reinforce consistency at the level of the EU, for instance, by reducing fragmentation, coordinating procurement, pooling forces and designing external leverage carefully. Therefore, when the EU published the corresponding report, it recognized that the main potential lay in creating a coherent institutional whole (European Union, 2015).

The official expectations of the Skills Agenda also rely on building a system, that is to say, an institutional whole that can transcend traditional policy sectors such as employment, school education and VET. Actually, the key points of leverage operate in the midst of these sectors: skills formation requires both education and training and active labour market policies. Visible skills facilitate transitions between educational levels and programmes as well as enable individuals to find meaningful jobs. Skills intelligence may become an instrument for schools, training providers and employers (European Commission, 2016, 3).

For the last decade, the Council has envisioned an education and training system that fully renovates previously established sub-sectors of education. Thus, instead of compensatory, urban or priority education targeted to at-risk (often, secondary education) students, this view endorses a preventative and direct approach to reducing early school leaving by following the transitions within the school system and catering to the needs of young people above the school leaving age. In a similar vein of renewal, the Council wishes to expand the action of adult education beyond the low-skilled groups of a middle-aged population in order to deliver high-quality learning to everybody, regardless of class, gender, ethnic or other social divides (European Council, 2011a, C191/2; European Council, 2011b, C372/3).

Similarly, the Youth Guarantee Scheme has proposed to articulate education, job search and traineeships on the grounds of a wider concept of innovation, education, training and employment policies in the European Union. Instead of an ad-hoc solution, the list of options that member states and sub-national authorities have been advised to guarantee to young people forms a key component of this system that associates the Innovation Union with the Skills Agenda (European Council, 2013, C120/3).

In sum, the innovation system is expected to co-evolve with the renovated and expanded version of the traditional education and training system. The official

documents clearly state that this mutual interaction is likely to enact at least three synergies that will greatly contribute to the goals of the Europe 2020 Strategy.

First, a key commitment calls for all member states to deliver new opportunities by articulating their own innovation and education policies. This commitment should deliver for 'low-skilled adults in Europe'. It should also curb any 'process whereby certain individuals are pushed to the edge of society'. Moreover, this approach should contribute 'to meeting the Europe 2020 goals of reducing early leaving from education and training to below 10%'.

> To improve the employment opportunities of low-skilled adults in Europe, Member States should put in place pathways for upskilling via a Skills Guarantee established in co-operation with social partners and education and training providers, as well as local, regional and national authorities. Upskilling should be open to people both in-work and out of work. Low-skilled adults should be helped to improve their literacy, numeracy and digital skills and – where possible – develop a wider set of skills leading to an upper secondary education qualification or equivalent (European Commission, 2016).
>
> Adult learning can make a significant contribution to meeting the Europe 2020 goals of reducing early leaving from education and training to below 10%. Particular attention should accordingly be paid to improving provision for the high number of low-skilled Europeans targeted in Europe 2020. At the same time, the substantial contribution which adult learning can make to economic development — by strengthening productivity, competitiveness, creativity, innovation and entrepreneurship — should be recognised and supported (European council, 2011b: 3).

Second, official documents expect that awareness be raised of skills shortages and skills mismatches among 'national, regional and local governments, regional grass-roots organizations and social partners but also actors at European level'. There are numerous references to the requirement that 'no one must be left behind' and that ask governments to 'reduce the share of 15-year-olds only achieving low levels of reading, mathematics and science to less than 15% by 2020'.

The digital transformation of society, the economy and industries across all sectors will have a far-reaching impact for Europe and its citizens. It presents a major opportunity for Europe but is also accompanied by a number of challenges. In particular, Europe must ensure that its citizens and its labour force have the appropriate digital skills to live and work in the new digital era. No one must be left behind (…) [The Commission recommends member states to] Harness and include those networks and actors who are providing the solutions on the ground, at national and local level; national, regional and local governments, regional grass-roots organizations and social partners but also actors at European level such as the Digital Champions (European Commission, 2018).

Third, the official messages align social cohesion with territorial cohesion. Thus, this discourse encourages member states to 'promote a harmonious economic, social and territorial development of the Union as a whole' by means of cooperation between regions. These arguments often appeal to 'social innovation' and 'social partners' (European Union, 2016).

10.4.3 Networking Levels of Government and Local Civil Societies

The discourse of the Innovation Union assumes that certain policy actors are the main targets of these recommendations. Both the Council and the Commission repeatedly mention 'the public sector, business, academia, finance' and other sectors as key stakeholders (European Commission, 2016, 7; European Union, 2016, 68).

To this end, the Innovation Union introduced a more strategic and broad approach to innovation by including actions that aimed to tackle both the supply and demand side elements of the innovation eco-system: the public sector, businesses, academia and finance. It equally assigned responsibilities and actions among the actors with the ability to shape the framework conditions for innovation, from the European Commission to Member States and Regional Governments, as well as other relevant stakeholders (European Union, 2015).

The employment and education policies that implement the Skills Agenda are also addressed to these networks of stakeholders. For instance, the European Social Fund (ESF) is open to social partners. The ESF supports training and active labor market policies that greatly contribute to underpin the 'education and training system' (European Social Fund, n.d.). As far as education is concerned, tackling early school leaving is not the exclusive responsibility of schools; on the contrary, "all relevant stakeholders" are invited to have a say (European Union, 2011b, C191/2-3). Further, the Council has recommended that member states 'develop partnerships' with a variety of stakeholders in order to implement the Youth Guarantee Scheme (European Union, 2013, C120/4). The Council has also reminded member states of the importance of civil society in the domain of adult education (European Union, 2011b, C372/4).

> ACCORDINGLY [THE COUNCIL] INVITES THE MEMBER STATES TO Ensure effective liaison with the relevant ministries and stakeholders, the social partners, businesses, relevant non-governmental organisations and civil society organisations, with a view to improving coherence between policies on adult learning and broader socio-economic policies (European Union, 2011b: C372/4).

At this point, a selection of findings from qualitative research projects will help to explore the reception of these policy messages in some regions. Project YOUNG_ADULLLT interviewed 168 experts on lifelong learning policies in Upper Austria, Vienna (Austria), Blavoevgrad, Plovdiv (Bulgaria), Bremen, Frankfurt (Germany), Girona, Málaga (Spain), Kainnu, Southwest Finland (Finland), Istria, Zagreb (Croatia), Genoa, Milano (Italy), Litoral Alentejano, Vale do Ave (Portugal), Aberdeen and Glasgow (United Kingdom). This data showed that variable but widespread configurations of bureaucratic and network governance implement these policies across the EU. Market governance does not seem to be so influential as in the United States, where private training providers are active almost everywhere (Rambla et al., 2018).

YOUNG_ADULLLT also showed the relevance of official 'theories of change' for the street-level educators professionals who directly interact with the beneficiaries of lifelong learning programmes. In the interviews, not only were many of them aware of the official discourse of the EU, but also, in some countries, they had developed a systematic theory of change. These common frameworks greatly contributed to articulate bureaucratic services with the professional networks of non-profits and the personal networks of the beneficiaries on the ground.

In a number of places, pre-existing initiatives were referred to. In Austria and Germany, the theory of change was expressed in terms of apprenticeship systems, whereas in Finland 'Public-Private-People-Partnerships' were referred to, and the 'Employment Pipeline' in Scotland. In each case, the interviewees consistently referred to the tenets and theses of the corresponding theories. In contrast, in places where the discourse of 'education and training systems' had more recently been introduced through EU documents, professionals seemed to struggle to overcome negative stereotypes of young people who applied for either training or welfare (Rambla et al., 2018).

A comparative discussion of Liguria (Italy) and Catalonia (Spain) sheds light on the role of local politics in reducing early school leaving (Bartolini, 2018; Tarabini et al., 2017). In Italy and Spain the national and the regional governments have not been particularly sensitive to the preventive and compensatory approach that the Council and the Commission have promoted. In both cases, however, some second-chance schools have been particularly innovative in elaborating wholesome 'theories of change' in relation to compensating for early school leaving. These schools have explicitly evolved from a remedial, last-chance understanding of educational services for early school leavers to educational, ambitious and sophisticated visions of these services. In Catalonia, second-chance schools have generated a new form of political relations. Here, some non-profits have created the model independently and then asked for public support. Municipalities have then designed a public policy on these grounds.

In sum, the EU has emphasized invitations to civil society to join its endeavor to build an 'innovation eco- system' as well as a wide-ranging 'education and training system'. Although it is too early to draw general conclusions, a significant and varied array of partners is playing an important role in EU regions. Civil society networks engage in relationships with public employment services in all sites involved in the research. In Germany and the neighboring countries, these networks include the traditional partners of neocorporatism, i.e., government, employers' associations and trade unions. Although the networks are much weaker in Southern (both Eastern and Western) Europe, some spurs of collaboration between local non-profits, employment services and education and training systems are emerging. Broadly speaking, local and regional professionals are taking the official 'theories of change' into account, although the habit of using these narratives of public policies is not common everywhere. Significantly, in Italy and Spain a few non-profits and even a few schools have designed innovative 'theories of change' that cater to the needs of early school leavers.

10.4.4 Homogenizing Innovation and Work-Centred Lifelong Learning in All Regions

Regional policies and civil societies enact mechanisms of selectivity that override a whole array of sensitive themes for many regions and localities. Selectivity consists of privileging some political alternatives at the expense of others. Thus, the policy actors who endorse certain alternatives are in a much more comfortable position than the ones who endorse other alternatives (Jessop, 2007). The acknowledgement of regional circumstances and the scope of lifelong learning programmes seem to be particularly exposed to selectivity.

For example, the ideal of building 'innovation eco- systems' posits a first illustration. Significantly, the Commission addresses all the regions in the 28 member states of the European Union. However, the Regional Innovation Scoreboard has clearly shown that these regions are quite dissimilar. In terms of the measures of innovation, while Scandinavian, many German-speaking and Western Atlantic regions are very innovative, other regions are very modest innovators (Hollanders & Es-Sadki, 2017). The general discourse, however, assumes that all these disparate cases will fit into the same type of 'systems', thus overlooking a huge variety of particular circumstances.

Lifelong learning policies posit a second instance of homogenization. In general, lifelong learning includes both objectives related to personal development and objectives related to employment and productivity. According to the findings of YOUNG_ADULLLT, the humanistic strand was noticeable in Finland, where some professionals told the interviewers that job centres and educational programmes were open to all people who experienced diverse biographical circumstances. However, lifelong learning had a different meaning in all the other countries. The professional interviewees associated this label with active labor market policies that were mandated to find jobs for beneficiaries in a short period. Additionally, although the respondents acknowledged that learning was necessary along the whole life course, most of them took for granted that these policies were basically an instrument to curb the number of youth who were unemployed (Rambla et al., 2018).

Ultimately, performance indicators not only measure but also define 'innovation eco- systems' and 'lifelong learning'. While the social agents that operate in different regions may develop very different types of innovation, they cannot showcase their 'eco-system' unless they measure according to specific metrics, e.g. R + D spending and patents. Similarly, while people learn throughout their life in the course of carrying out human activities such as employment, family responsibilities, political participation and leisure, their biographical experiences are not relevant to measures of learning and innovation unless they are directly related to employment. Performance indicators enact selectivity to the extent that they narrow down the diversity of the eco-systems and the scope of meaningful transitions during the life course of people.

10.5 Implications of EU Innovation and Education and Training Policies for Regions

In the European Union, complex configurations of politics, geography and expert knowledge have fashioned the imaginaries of innovation and education and training. The main EU institutions interact not only with member states but also with regions and cities. A wide range of political processes is enriching the landscape of regional policies, but by applying performance indicators to innovation and education and training, the EU institutions have produced their own knowledge on the main challenges that member states, regions and localities must face.

Table 10.2 outlines in which ways the EU construes an image of regions through innovation policies as well as through education and training policies. Drawing on the dimensions of performance indicators as a policy instrument (see Table 10.1), the table highlights how policy instruments deal with regions. Each row summarizes the observations developed in the previous four sections.

First, accomplishment is the most explicit regional dimension of the policy instrument. Since EUROSTAT estimates regional indicators of both innovation and education, any policy-maker can easily consult a map that classifies her region according to a variety of rankings that distinguish active and modest innovators as well as more or less effective systems of education and training.

Second, the intellectual underpinning of these policies lies in 'theories of change'. The endeavors to make an 'innovation eco-system' and a wide-ranging 'education and training system' entail several beliefs on the possible causal effects of the initiatives that constitute these systems. In both cases, regions become the anchor of the systems.

Third, the official expectation of crafting appropriate political relations affects both innovation and education and training. The idea is that a diverse variety of

Table 10.2 Implications of EU innovation and education and training policies for regions

Performance indicators as policy instrument	Innovation	Education and training
Accomplishment of benchmarks	Regional innovation scores	Regional (NUTS2) statistics
'Theories of change'	Innovation eco-systems rooted in regions	Education and training systems (schools, action on early leaving, adult education, YGS) rooted in regions
Political relations	Civil societies to build networks gathering national school systems, regional and local educational authorities, private training providers, VET institutions, ALMPs, employers, business, finance, unions and non-profits	
Selectivity	Overlooks regional polarisation	Except for Finland, 'employment-first' approaches prevail

stakeholders collaborate with authorities to foster those two types of system. Some partial evidence suggests that the articulation of bureaucratic and network governance at the local level is generating new political relations in the domain of education and training.

Fourth, selectivity eventually impinges on the discursive construction of regions by obfuscating the relevance of some issues. It is telling that the European institutions assume that 'innovation eco-systems' flourish in technological hubs as well as in settings that are not so well connected with the main trends of economic globalization. Similarly, by privileging job search over many other elements of education, lifelong learning policies also tend to depict regions as labour markets regardless of many other components of geography.

In brief, the geopolitics of knowledge illuminates key processes that take place within the European Union. Politics intermingles with knowledge insofar as decision-makers want the public sector, business and individuals to come up with innovative practices that strengthen the economy. Politics and knowledge are also the basis of education and training policies. The Innovation Union and the EU Skills Agenda understand that the regions of the EU will avail of unprecedented synergies if policy-makers are able to build encompassing innovation systems and education and training systems. The image of synergies between these two types of system has become a taken-for-granted portrait of regions in the official discourse. However, it is also notable that this portrait privileges particular aspects at the expense of excluding others. While the mainstream message emphasizes the expectation to trigger a virtuous circle of innovation and education, the Union sidelines concerns with regional heterogeneity and lifelong learning for human empowerment.

10.6 Conclusions

The European Union has elaborated quite sophisticated imaginaries of education and innovation by means of policy instruments that use expert knowledge to draw certain geographical images of the member states and the regions within these states. Remarkably, these maps have proliferated at the same time as the locus of decision-making has shifted between geographical scales in very complex ways. In doing so, the top EU institutions (i.e. Council, Commission and Parliament) have utilized performance indicators that measure the outcomes of education and training and estimate the innovative potential of regions.

In order to accomplish measurable benchmarks that locate their areas of responsibility in comparative rankings, the European Commission and the European Council have actively encouraged national and sub-national decision-makers to adopt best practices in the fields of education and innovation. These recommendations normally assume theories of change relating to imagined potential synergies between innovation eco-systems and education and training systems, which are expected to open new opportunities for citizens as well as to detect mismatches between skills and labor markets that should be urgently addressed.

Performance indicators have also asked governments, employers, educational institutions, technical centres and other stakeholders to collaborate with as the widest possible networks s that gather varied policy actors in their areas and their regional context. When focusing on benchmarks and relying on theories of synergy, decision-makers have not only woven these large networks but also naturalized a common order of priorities. Significantly, these priorities have privileged linear concepts of R + D and employment-centred understandings of lifelong learning.

In a nutshell, the EU has used education, science and innovation to design a wide-ranging variety of policies. These three components have contributed to shape the mainstream imaginaries of the knowledge society. In all policy areas, including innovation as well as innovation and training, decision-makers meet experts who sponsor certain policy instruments. Some strands of expert knowledge are built into these instruments. Insofar as the EU regulates its innovation and education and training policies by means of performance indicators, the EU member states and regions become the units of official rankings that classify the quality of professional and institutional practices. This political and technical operation has implications for political relations at all levels of governance as well as for the order of priorities. It is important to spell out these implications in order to find out the extremely significant linkages between politics, knowledge and space. Moreover, research on these implications also provides empirical evidence on the margin for democratic deliberation and the predicaments that consistent and feasible proposals to broaden up the scope of democratic deliberation would likely face.FundingThis analysis is an outcome of the projects YOUNG_ADULLLT and EDUPOST16. YOUNG_ADULLLT has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 693167. EDUPOST16 has received funding from the Government of Spain R&D programme under the grant agreement CSO2016-800004P.

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Chapter 11
The Internationalisation of Further Education: Between Geoeconomics and Geopolitics

Eva Hartmann

11.1 Introduction

This contribution intends to radicalise a research agenda that explores the link between the knowledge-intensive economy, education and geopolitics (see e.g. Moisio in this volume). With the increasing significance of a post-Fordist economy not only higher education but equally further education has increased in importance. A shortening of the life cycle of knowledge in an increasingly international 'perpetual innovation economy' (Morris-Suzuki, 1997: 18), together with demographic changes, has steadily increased the need for life-long learning. Further education and training have become an integral part of most people's educational biography. In 2016, when the European Union conducted a large survey, over 40% of people aged 25–64 had taken part in education and training in that year alone. The participation rate has increased further since then in all high-income countries, including the United States (Training, 2019).[1] This type of education is non-formal; it predominantly takes place outside of the structured education system like schools and universities, and is often linked to non-degree credentials, contributing to the boom in micro credentials in recent years (Kato et al., 2020).[2]

[1] See Eurostat TRNG_LFSE_01: Participation rate in education and training (last 4 weeks) by sex and age https://ec.europa.eu/eurostat/databrowser/view/trng_lfse_01/default/table?lang=en

[2] See Eurostat trng_aes_100, https://ec.europa.eu/eurostat/databrowser/view/trng_aes_100/default/table?lang=en

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The provision can but does not have to be profit-oriented. In the EU context one third is provided by employers, and in some countries up to two thirds.[3] In other words, an important part of further education and training takes the form of corporate education. In particular large companies, most of them multinational companies (MNCs), are very active in providing "training measures or activities which have as their primary objectives the acquisition of new competences or the development and improvement of existing ones and which must be financed at least partly by the enterprises for their persons employed", as the EU defines corporate education.[4] Taking a critical stance, we should, however, refrain from reducing this type of education to a simple acquisition of skills. Like any other form of education, company-based education influences how learners perceive the world. Drawing on and further developing James Scott's seminal historical study of 'seeing like a state' (Scott, 1998), we can understand corporate education as part of companies' effort to ensure that all their employees learn to 'see like a company'. Corporate education is therefore a key part of corporate soft power, ensuring that employees know the company's interests and act in line with them (Hanlon, 2016). This type of education is therefore part and parcel of an economic imaginary that a Cultural Political Economy approach considers a key enabler of markets (Jessop & Sum, 2007).

This transformation of the post-secondary education landscape has major implications for education studies. It challenges its public bias and adds another dimension to studies on private education providers. In this contribution, I seek to explore the enabling conditions of corporate education, examining the extent to which companies are able to design their own, corporate education. This inquiry becomes even more pertinent in the case of MNCs. Can they harmonise their company-based education throughout their branches and across national borders? If this is the case, we would indeed be witnessing a new global education provider, given the sheer size of many MNCs. The largest MNCs have revenues that exceed the GDP of many countries (UNCTAD, 2016: 31). The 100 largest MNCs alone employed over 17 million employees in 2015, which was an increase of 9.4% over 2014 (ibid.). Susan George therefore refers to giant firms as 'global sovereigns' in her critical study of globalisation (George, 2015). We do not yet know much about the geopolitical and geoeconomic dimensions of these transnational private authorities. This is the second question that I will explore in this contribution. What is the geopolitical and geoeconomic dimension of corporate education? At the centre of my inquiry are key findings of a research project on multinational pharmaceutical companies and their educational strategies that I conducted in 2016 and 2017 (Hartmann, 2019).

My contribution is divided into three parts. *Firstly*, I will set the stage by outlining an analytical framework that makes it possible to account for the geopolitical and geoeconomic dimension of MNCs. I will then discuss the implications for a critical undestanding of their education and training. Against this backdrop, I will,

[3] See Eurostat (trng_aes_170) https://ec.europa.eu/eurostat/databrowser/view/trng_aes_170/default/table?lang=en

[4] http://ec.europa.eu/eurostat/statistics-explained/index.php/Continuing_Vocational_Training_Survey_(CVTS)_methodology [last accessed 24/04/2021].

thirdly, summarise some important findings of the pilot study I conducted where I explored the degree of internationalisation of corporate education that ranges from initial vocational education to leadership training of the top management. I will reflect on the geopolitical and geoeconomic implications in each case, with a view to developing a new research agenda. This agenda not only pays attention to the rapidly growing sphere of non-formal education and its internationalisation, but it also seeks to contribute to the wider research on geopolitics and geoeconomics. I will make a strong case for an interdisciplinary perspective, drawing on international political economy, the sociology of organisation and management studies.

11.2 The Rise of Multinational Companies

The number of companies with branches all over the world has significantly increased in the last few decades. These companies, many of them being "giant firms" (Crouch, 2010), contribute about half of global exports, almost one third of world GDP, and about a quarter of global employment (OECD, 2018). The majority of their headquarters are situated in the US, Europe, and Japan, reflecting the current global economic order, though with emerging competition from China, India and Korea (UNCTAD, 2020; Vihma, 2018).

However, can we equate MNCs with nation states? Have MNCs become state-like entities that seek to shape the world? Is global power, in other words, not only about geopolitics but also about geoeconomics? The term geoeconomics is closely related to the historian and former strategic adviser to the US government Edward Luttwak. In a seminal article published in 1990, just after the end of the Cold War, Luttwak asked whether World Politics was going to be replaced by World Business with its myriad of economic interactions spanning the globe and own logic, norms, and values (Luttwak, 1990). Other scholars speak of an emerging transnational private authority, an global extra statecraft (Hartmann & Kjaer, 2018). The current geopolitical polarisation may force companies to develop even further such networks that are independent of World Politics in order not to endanger their business. Luttwak's question triggered a lively debate about the relationship between geopolitics and geoeconomics. Most globalisation studies tend to support the World Business thesis highlighting an important retreat of the state. In contrast, other scholars consider geopolitics and geoeconomics inseparable. Making strategic use of its economic strength and its companies has become just another, though vital, element of the states' geopolitical strategy, they argue (Agnew, 2020; Wigell et al., 2021). Scholars of International Political Economy take a middle position: they argue that the world of business has gained an important degree of autonomy but still depends on some national regulations and infrastructure. We could speak therefore of a relative autonomy. Sami Moisio further develops this position by adding a sociological understanding of the infrastructure (Moisio, 2019). Drawing on cultural political economy, in particular Callon and Caliskan's concept of economisation, he highlights the complex extra-economic market-making on which the world

of business depends to successfully expand markets (Calıskan & Callon, 2009). Higher education and its internationalisation is a prime example of this extra-economic infrastructure that business depends on: Its knowledge has become a key productive force for the global knowledge-intensive economy. It helps create the respective economic imaginaries and constitutes "an organized set of human figures, who are, from the perspective of political power, equipped with particular ideal skills, behaviours, orientations, and 'spatial mindsets', which can be harnessed in the production of territories of wealth and competition"(Moisio, 2019: 11). In this contribution, I argue that not only higher education but corporate education as well plays a vital role in establishing such mindsets. As a non-formal company-based education it is even closer related to World of Business than formal education. But to which extent have the norms and values that underpin corporate education remained national in orientation? Conversely, have they rather become an intrinsic part of World Business, enjoying, as a result, a similar geoeconomic autonomy? I exlore these questions by drawing on key findings of my pilot studies where I assessed the capacity of MNCs to harmonise their corporate education throughout their different branches across the world. A high degree of convergence throughout the entire corporation across naional borders would indicate increased independence from the national context. Such a finding would support the World Business thesis, casting light on the rise of new geographies of centrality. The critical geographer Saskia Sassen has coined this term in her attempt to come to grips with an emerging transnational social space that is neither national nor international (Sassen, 2001). MNCs are prime examples of such geographies with their branches in different parts of the world. In this respect they resemble global cities that are in the centre of Sassen's study. Scrutinising the ability of MNCs to design a corporate-wide education that is independent of national arrangements will be a litmus test for Sassen's and the World Business thesis of an emerging transnational geoeconomic space. In the next section, I will develop an analytical framework that will help scrutinise the relative autonomy of World Business in general, and MNCs in particular.

11.3 In Search of an Analytical Framework

Sociological institutionalism developed in the vein of Max Weber provides a helpful framework to explore the relative autonomy that MNCs have in setting up their own corporate education (Meyer, 2009; Powell & DiMaggio, 1991; Ramirez et al., 2016). At the centre is the difference between power, knowledge and authority in modern societies. Not all types of power have authority, and not all knowledge is authoritative. An entity – be it a person, an organisation, or an office – might be *in* authority, that is to say it has the right to command, but it is not *an* authority. Only when the two authorities overlap does the knowledge become authoritative and, as a consequence, broadly shared. Power that becomes authority (Herrschaft) also

increases "the probability that a command with a given specific content will be obeyed by a given group of persons" (Weber, 1978: 52). Weber identifies science, law and rules as the main sources of legitimation for modern power; they enable power to become *an* authority. This rational authority contrasts with a charismatic authority that builds on an individual personality features endowed with supernatural or, at least, exceptional powers or qualities. John Meyer and Brian Rowan have been very influential in further developing Weber's idea by de-constructing his modernist bias. They argue that science, law and rules do not *per se* provide legitimation to a power (Meyer & Rowan, 1977). It is rather broadly shared norms, values and knowledge that portray certain institutional arrangements, or in our case education, as appropriate. Walter Powell and Paul DiMaggio's reading of Weber, which has become particularly influential in the field of Business Studies, brings power struggles and contentions into the picture. They highlight the competition between different norms, each claiming to be the most appropriate one. A case in point is the competition between different professions over what counts as professional (see, e.g. Larson, 2013[1977]: 68). We will see how such competition between different professional norms is at the heart of corporate education, and of education more generally. Only the norms that emerge victorious will benefit from normative isomorphism and thus get disseminated as the legitimate ones. These norms do not only delineate what counts as appropriate behaviour. They also influence what counts as social reality, as the sociologists Peter Berger and Thomas Luckmann underline in their study:

> Legitimation not only tells the individual why he *should* perform one action and not another; it also tells him why things are what they *are*. In other words, 'knowledge' precedes 'values' in the legitimation of institutions. (emphases in original Berger & Luckmann, 1991[1966]: 111)

Combining Berger and Luckman's ideas with our notion of seeing like a firm, we thus get a more sophisticated understanding of the role of legitimacy in creating a common understanding of the reality in which companies seek to pursue their business.

But what happens to the normative leverage of a power if it is not recognised as an authority? In this case two modes of isomorphism may come into play, DiMaggio and Powell argue: coercive isomorphism or mimetic isomorphism.

In the case of *coercive isomorphism*, an organisation benefits from another organisation being dependent on it. This form of diffusion comes closest to Weber's notion of coercion, i.e. the probability that an actor within a social relationship will be in a position to impose its norms despite lack of acceptance or even resistance (Weber, 1978: 53). In the sphere of the market, coercive isomorphism is likely to gather momentum in oligopolistic markets that leave little choice to consumers. Market leaders can impose their norms even when they encounter discontent from some of their clients. Boycotting Facebook Inc., for instance, has turned out to be a difficult enterprise due to a lack of alternatives to maintain the social contacts enabled by the Facebook infrastructure. At company level, coercive isomorphism would be related to the power of the management, i.e. the "visible hand of

management" (Powell, 1990: 301). MNCs could, in principle, introduce the same education throughout the entire corporation, simply because they have the power to do so. We will see that such leverage is not so straightforward if it lacks legitimacy.

The third type of isomorphism, *mimetic isomorphism*, is likely to occur in moments of high uncertainty, for instance when causalities or organisational technologies are poorly understood or goals ambiguous (Powell & DiMaggio, 1983: 151). As we will see, this type of isomorphism prevails under market conditions due to uncertainty about future developments. In such a situation companies, and organisations in more general terms, tend to imitate each other because they do not know any better way to prepare for the unknown future. Following Mark Granovetter's analysis of the strength of weak ties, Neil Fligstein points out the key role of networks in this context (Fligstein, 2001). These can be informal networks between different companies, or business associations. They act as knowledge brokers bridging different, unconnected companies and organisations with a view to ensuring the flows of information and knowledge which in turn reduce uncertainty (Burt, 2004). We will see that this form of norm diffusion is widely used in the sphere of corporate education.

In the next section I will outline the different forms corporate education can take and will then discuss how the forms are influenced by the type of MNCs. These links have important consequences for the ability of MNCs to create their own transnational educational spaces, which would support the Global Business thesis.

11.3.1 Varieties of Corporate Education

Corporate education includes a broad range of different education and training programmes, ranging from management education to training for the non-managerial technical staff and initial vocational education and training (IVET) for young people, the apprentices.

However, only some MNCs provide initial vocational education and training (IVET) where parts of the education are provided by companies and parts by publicly-funded vocational schools (Hippach-Schneider & Huismann, 2016). All of these companies have their headquarters in Coordinated Market Economies (CMEs), to use the classification of the Varieties of Capitalism approach (Estevez-Abe et al., 2001).[5] These economies differ in terms of skills formation but also industrial relations, interfirm relations, and employer-employee relations from their counterparts, the Liberal Market Economies (LMEs).[6] LMEs coordinate their economies via the market itself, by arm's-length arrangements, competitive relations, and supply and demand interaction, mediated by price signalling. Conversely, CMEs depend much

[5] CMEs include Germany, France, Japan, Sweden, Austria, and Switzerland.

[6] Liberal Market Economies (LMEs) are the USA, UK, Canada, Australia, New Zealand, and Ireland.

more on nonmarket relations, credible commitment and collaboration including network monitoring, including a range of different actors beyond the firms. IVET is a direct result of these extra-economic interactions. Germany, where some of the companies I studied have their headquarters, is a prime example with an elaborate dual apprenticeship system in place. All German MNCs I interviewed had tried to establish an apprenticeship system at their branches abroad (interviews 10, 14, 16, 19). The difficulties they encountered indicate how much this type of corporate education depends on a complex non-market arrangement between different actors at national level that cannot easily be transferred to another country unless it has a similar structure in place.

However, the situation differs significantly in the area of further education that all MNCs provide independent of the country where their headquarters is situated. The scrutiny of this type of corporate education will provide interesting insights into extent to which their corporate education has become independent of national arrangements.

11.3.2 Further Education

Access to firm-based education depends to an important degree on the employee's former qualifications and position in the firm hierarchy. The higher the formal qualifications of employees and their position are within the company, the more likely it is that they receives training.[7] Top management training is also most likely to be internationalised. The majority of MNCs have a global succession programme in place independently of where their headquarters are, according to studies of MNCs' HR strategies (for Denmark, CBS and KU, 2011: 69; for the UK, see Edwards et al., 2007: 58–9). Over 50% of MNCs provide global high-potential training programmes (Mabey & Ramirez, 2004).

Many companies, including the majority I visited, refer to these training programmes as corporate university (CU).[8] The term reflects the importance of knowledge for these companies and the fact that they recruit university graduates to an important degree. However, the term may be misleading for it includes a variety of training programmes that differ in the type of skills, behaviours, orientations, and mindsets they seek to create. A helpful point of departure is Martyn Rademakers'

[7] A study by the American consultancy firm Brandon Hall Group speaks of a trickle-down strategy in expenditure on training Brandon Hall Group, 2016. "2016 Brandon Hall Group, Training Benchmarking Study."

[8] Examples are Motorola, Apple, Deloitte, Dupont, IBM, General Motors, AT&T, Dell, Ford, and Boeing in the USA. In Germany the airline company Lufthansa was the first to establish a CU, followed by Volkswagen, Daimler-Benz, Siemens, Deutsche Bank and the pharmaceutical company Bayer, to name but a few. Examples in France are AXA, Alcatel-Lucent, EDF Group France Telecom, Fnac, Mazars, Orange and PSA Peugeot Citroën. Companies in Spain with corporate universities are Gas Natural Fenosa, Grupo Santander, Indra, Ferrovial, Telefónica and Banco Bilbao.

typology of CUs, which distinguishes between school, college and academy types of corporate university (Rademakers, 2014). *Schools* are central learning units with highly standardised programmes that also reflect a high degree of standardisation of the products and services the companies sell. An example of a school is the Hamburger University of the fast-food chain McDonalds. We thus get a sense of how production regimes impact on the way the management seeks to standardise the skills of its employees. The second type, the *college*, is closely associated with companies' alignment strategies that use the centralised training unit to advance an overall transformation of the company. This type is less top-down in its diffusion of norms and can therefore respond better to the different contexts of the branches and subsidiaries. The training programmes are more diverse, also reflecting the internal functional division of labour and different further education needs. Rademakers refers to the Mars Corporate University as an example.[9] The last type, the *academy*, provides the least standardised education since it gives the participants an important role in co-producing how the company sees the world. It is also the most exclusive one, mainly targeting the upper management level. A case in point is the Apple University, which provides courses on how to make important strategic decisions for the upper management and for a select group of other employees who have been identified as rising talents (Chen, 2014). Succession programmes also fall under this category.

11.4 New Geographies of Centrality

However, Rademakers' typology of CUs remains rather descriptive and does not examine important differences in the organisational setup of MNCs that influences the type of firm-based education they prefer and the degree of harmonisation accross the branches they seek to achieve. A better understanding of the organisational context will provide insights into the complex interaction between Global Business and national legacies, illuminating the interaction between geopolitics and geoeconomics. To overcome this shortcoming I will relate his typology to a differentiation between MNCs that scholars of industrial sociology and the sociology of organisation have introduced (for a good introduction, see Harzing, 2000; Kasper et al., 2013; Morgan & Kristensen, 2007).

Varieties of standardisation

We can distinguish between three important types of MNCs. They differ in terms of degree of integration as well as local responsiveness, and are likely to favour specific types of corporate education (Table 11.1).

1. The first type of MNCs builds on a *federal structure* that leaves much discretion to the different branches, subsidiaries and affiliations. The low degree of har-

[9] https://www.mars-llc.ru/cis/en/careers/more-than-a-job/mars-university.aspx [last accessed 24/04/2021].

Table 11.1 Types of MNCs, Source: own elaboration based on and further developed of Kasper et al.

Type of MNC	Degree of integration	Type of corporate education	Type of knowledge & degree of harmonisation
Federal MNC	Low integration, high local responsive	Academy for the top Nationally specific colleges for the rest	Only top level internationalised, strong national diversity
International MNCs	High integration, little local responsiveness	Academy for the top Mainly school type for the rest	High degree of international convergence accross branches/ subsidiaries
Transnational MNCs	High integration, high local responsiveness	Academy for the top Mainly colleges for the rest	High degree of international convergence accross branches/ subsidiaries

monisation throughout the corporation allows for a high level of local responsiveness. The global harmonisation of corporate education tends to be restricted to the top management. My pilot study, as well a number of contributions to the management literature, suggest that the other corporate education programmes, designed for the branches and subsidiaries level, reflect important national legacies, institutional arrangements and the requirements of the respective production regime. Top leadership programmes and the lower training programmes are therefore rather loosely coupled. This type of MNC thus remains much embedded in national contexts and does not support the thesis of an emerging Global Business that enjoys a high degree of autonomy. In this arrangement, corporate education is not able to contribute to a new geography of centrality.

2. *International MNCs* pursue a much higher level of integration by way of a strict top-down hierarchy that leaves little discretion to the subsidiaries, which in turn reduces local responsiveness (interviews 21, 22). This type is characterised by a coherent transnational infrastructure that follows the organisational structure of the companies, essentially ignoring local peculiarities. Corporate education of this type of MNCs is mainly provided in a highly standardised school-type format, with a view to ensuring compliance throughout the whole corporation. Such MNCs are indeed capable of creating a transnational space which would support the Global Business thesis. The centralised, standardised and formalised management of human resources reflects the production regime that these MNCs have established. In the pharmaceutical industry, they are often companies that produce 'blockbuster' drugs in highly standardised mass production that requires little in the way of skills at the medium technical level. These types of MNCs are more likely to have their headquarters in the US or other Liberal Market Economies (LMEs), which brings a geopolitical dimension into the picture (Child et al., 2000; Edwards et al., 2007; Ferner et al., 2004). This type of corporate education is likely to gain a geoeconomic quality that remains closely linked

to geopolitics, amplifying the influence of the country where the MNCs headquarters are based.

3. The third type of company, the *transnational MNC*, combines high levels of integration and local responsiveness. This type is a classic example of a learning organisation where the management seeks to take into account the experiences of subsidiaries, with a view to increasing local responsiveness while also deepening integration. They often have a global unit in place that establishes an overall matrix, related to values, that is then adapted to the different contexts; or, as one of the experts I interviewed put it:

'There is a global team that focuses on management education. It develops management competences that then get disseminated to the different local units, where the concepts get modified to reflect the country-specific situation.' (interview 7, my translation).

This type of MNCs thus seeks to create transnational space that is similar to the one of the international MNC type. However, it differs in terms of the knowledge, skills, behaviours and mindset it seeks to establish that can be "harnessed in the production of territories of wealth and competition" (Moisio, 2019: 11). Its business strategy, as well as its education and training, seek to account for the insights provided by branches and affiliates (interviews 11, 12, 13, 20). In this respect, it contributes to the creation of a new geography that is transnational in scope, closely linked to the geoeconomic power of the World Business. However, we need to further dissect the source of authority to understand the enabling conditions of this geoeconomic power.

11.4.1 Sources of Authority

As discussed earlier, the fact that the company management is *in* authority does not automatically ensure that its education programmes have a high reputation. However, the reputation of being able to offer cutting-edge further education has become vital for companies to create a mindset amongst their employees that can be harnessed in the production of territories of wealth and competition. It is equally important to attract the talent they need and to increase the retention rate of employees (SHRM, 2016). In this section, I continue my inquiry by scrutinising the source of authority MNCs draw on to increase the reputation of their corporate education. I will pay attention in particular to the degree to which these resources are global in scope and therefore help MNCs internationalise their educational activities. This section increases the complexity of our study by going beyond a study of the institutional arrangements. It brings the normative environment of World Business to the fore on which MNCs depend in their attempt to harmonise their education and training accross the branches. This geoeconomic environment has its own myriad of networks and communication streams, as well as imaginaries that enable the globalisation of knowledge intensive economies. I will outline different strategies MNCs use to build on this environment with a view to increasing the authority of

their own corporate education, based on the findings of my pilot study and management literature. In each case, I will discuss the implication for the degree of autonomy of the source of authority and the relationship between geopolitics and geoeconomics.

The fact that many companies call their centralised education unit a corporate university must be seen as an attempt to improve the reputation of their training programmes. The labelling is more than just another marketing gimmick to make existing teaching and development departments look better, as some scholars claim (Blass, 2001; Walton, 2005). It illustrates the *first strategy* to ensure the reputation of their training: the imitation of formal education, in particular higher education. Apple University is a model case. Its former dean, Joel Podolny, who reported directly to the CEO of Apple, used to serve as dean at the Yale School of Management and was previously a professor at Stanford University Graduate School of Business as well as Harvard Business School.[10] In other words, Apple University seeks to put itself on an equal footing with the Ivy League universities, with a view to branding its training as cutting-edge. As indicated earlier, MNCs with headquarters in CMEs as well as LMEs refer to this type of training as corporate universities. However, the fact that the first CU was established by the US company General Motors and quickly taken up by other US companies, while being more contested in Europe, highlights a geopolitical dimension of this mimetic isomorphism (Becker, 2004; Densford, 1999).

A *second* strategy of authorisation is closely related to normative isomorphism linked to professional norms and standards. Companies seek external accreditation of their programmes to provide their training programmes with authority. An example would be the British CPD Certification Service, which offers external quality control and accreditation of company-based continuing professional development.[11] This is an authorisation strategy that all MNCs seem to make use of, independent of the location of their headquarters. However, there are not many professional associations who offer their services at global level, indicating an important spatial restriction to this type of market coordination. It seems that English-speaking associations are better positioned, as they benefit from a stronger market orientation in their home countries and a colonial legacy. We thus get a sense of a strong link between geopolitics and geoeconomics that exist in this context as well. However, more research on the geopolitics of professional associations is needed before we can draw conclusions.

A *third* strategy of authorisation is much informed by mimetic isomorphism and makes use of peer review. A number of companies encourage their CUs to seek recognition from other CUs as part of peer-review quality assurance. Cases in point are the Global Council of Corporate Universities (GlobalCCU), a membership organisation for CUs. One of the companies I interviewed made use of the European

[10] https://quotes.wsj.com/AAPL/company-people/executive-profile/35827600 [last accessed 24/04/2021].

[11] https://cpduk.co.uk [last accessed 24/04/2021].

Foundation for Management Development (EFMD).[12] The EFMD is a particularly interesting case, since its accreditation goes beyond simple peer review. Its membership includes corporate members, business schools, consultancies and even public services from 86 different countries and is thus well embedded in World Business. These business networks thus constitute a transnational normative environment that provides legitimacy and reputation to corporate training programmes. Mimesis is the main mode of harmonisation in this context, with companies imitating other companies they deemed successful. Although more research is needed to explore this emerging geoeconomic authority that corroborates the World Business thesis.

A *fourth* strategy of authorisation has gained momentum in recent years. Companies have started to outsource their training to external educational providers they consider of good quality. In Europe, between one third and two thirds of firm-based training makes use of external providers.[13] Small employers, in particular, rely on external providers. However, in absolute terms it is the large employers who are the main purchasers of these educational services, in particular for technical and middle management training (see, e.g. BIS, 2013; Münch, 2012: 8).[14] Some professional associations provide such training. But due to the low degree of internationalisation, they are a minority. The lion's share is provided by for-profit organisations. Skillsoft, which is used by some of the companies I visited, is the world's largest corporate training provider. It offers 500,000+ multi-modal courses, micro-learning modules, videos and authoritative content chapters which were accessed more than 130 million times per month in 2017, in 160 countries and 29 languages.[15] Another example would be Wilson Learning Worldwide, listed as one of 2000 largest companies in the Global Forbes ranking. Wilson Learning Worldwide provides courses in 30 languages in over 50 countries.[16] These companies have created an important transnational area of corporate education, supporting the Global Business thesis. However, the fact that many of these companies have their headquarters in the US, benefiting from its major market as a basis, casts light on an important geopolitical dimension of this emerging new geography of centrality.

[12] The service is carried out by a sub-unit, Corporate Learning Improvement Process (CLIP) http://www.efmd.org [last accessed 24/04/2021].

[13] A comparison between 2007 and 2011 indicates a slight decline in the education provided by employers, while external provision increased in many European countries. See EuroStat: Distribution of non-formal education and training activities by provider[trng_aes_170].

[14] There also are some country-related differences. The EU Adult Education Survey identifies a broad range from 71% outsourcing in the Czech Republic to 31% in Slovenia. The EU average is 46 per cent. See Eurostat: Percentage of the total hours in external CVT courses, by training provider and NACE Rev. 1.1 [trng_cvts3_67] http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=trng_hour03n&lang=en [last accessed 28/05/2021].

[15] This information is provided by the company. See www.skillsoft.com/about/press_room/press_releases/June-14-17-Skillsoft.asp [last accessed 24/04/2021].

[16] www.wilsonlearning.com [last accessed 24/04/2021].

In addition, the fast-growing market of educational service providers includes a range of providers whose main activity is not related to training.[17] Consultancy firms in particular have become important players. A good example is Mercer, also used by one company I visited. Mercer is one of the largest human resources consulting firms with about 22,000 employees and operating in more than 140 countries, providing a broad range of human resource management (HRM) training courses.[18] Individuals can buy these courses, but companies are the most important purchasers. This fourth strategy has become a crucial enabler of an emerging transnational space in the sphere of corporate education, providing further insights into the enabling conditions of the Global Business' authority. Although the findings suggest that the normative power of Global Business has a geopolitical quality in this context as well. For-profit providers with headquarters in LMCs seem to have a competitive advantage given the role markets already play in coordinating their domestic economies, giving them a head start at global level. A dilemma that for-profit providers are confronted with is likely to amplify the trend, as I will show in the next, final section of my analysis.

11.4.2 The Dilemma of For-Profit Education Provision

For-profit providers depend even more on being recognised as *an* authority in the sphere of training. No company would outsource the training of their employees to a provider they did not consider of high standard and likely to be still relevant tomorrow. At the same time, they are exposed to the volatility of the market and to price-mediated competition that risks undermining their authority. A good example is the provision of HR management training. Many HRM training programmes on the market draw on best-selling management books written by senior HR experts, often formerly employed in a top position at a well-known company, as a number of my interviewees explained to me (interviews 1,9,11). The reputation of these senior HR experts, often portrayed as gurus with exceptional insights into emerging trends, provides the training programme with *an* authority of a charismatic type, to use Weber's terminology. However, under conditions of market competition such shining stars can easily fade and be replaced by another rising star promoting a new HR approach. The authority of this type of education providers is thus exposed to a kind of volatility similar to that of the fast-moving fashion world and is forced to produce new trends all the time. This dynamic inevitably produces a confusing market with a plethora of competing approaches and concepts, which, as a consequence, undermines the standardisation education requires to ensure that the acquired skills and

[17] About 10% of training, on average, is provided by this type of provider in the EU countries, according to the latest EuroStat data. See EuroStat: Distribution of non-formal education and training activities by provider Code: trng_aes_170. https://data.europa.eu/euodp/en/data/dataset/pjTE42j35nuLTd0tCI8R0A [last accessed 24/04/2021].

[18] Interview 11; see also www.mercer.com/about-mercer.html [last accessed 24/04/2021].

competences are still relevant tomorrow. In other words, the very condition of the market, i.e. competition and volatility, risks undermining the authority of these providers.

For-profit providers have developed a number of strategies to address this risk. I will discuss five different strategies, all of which were mentioned in the interviews of my pilot study. They help us deepen our understanding of the enabling conditions of transnational normative space supporting World Business. *Firstly,* some for-profit providers seek accreditation from professional associations, which are less exposed to price-mediated competition and volatility, to sustain their reputation in the market. Smaller educational providers seem to prefer this form of social closure to keep their competitors at bay. This stabilisation strategy underpins a normative isomorphism based on professional norms and values and brings to the fore the importance of private and not profit-oriented norm-setters that help to reduce market instability. However, many of these professional associations are national or regional in scope and therefore of limited use for providers who offer training across the world.

A *second response* to the dilemma deploys market instruments to reduce competition. In this case providers seek to benefit from scale and network effects, notably in the sphere of e-learning, to stabilise and strengthen their influence. Developing e-learning modules is expensive, but once they are established scaling up the provision does not entail major additional costs. However, the effect of sunk costs makes it very difficult for newcomers to enter the market.[19] The market power also makes a provider less dependent on being recognised as *an* authority, as long as it can keep competitors at bay. Microsoft is a case in point.

The *third response* is also likely to increase market concentration. In this case, education providers make use of synergy effects from other services they provide. A case in point would be a consultancy firm that uses its market intelligence, gained through its consultancy, to strengthen its reputation as a cutting-edge training provider. This synergy explains why companies whose main revenues are generated through non-educational services have become key players in the sphere of corporate education. LinkedIn illustrates well how the second and third response can be interrelated. This platform entered the professional education market in 2015 by purchasing the online video course provider Lynda.com, which later became LinkedIn Learning. LinkedIn's reputation as a training provider benefits from the fact that it has the world's largest and most comprehensive database of CVs and job descriptions. It can use the data of its users and costumers to gain real-time insights into skill offers and needs (Hartmann & Komljenovic, 2020; Michel, 2016).

The *fourth response to the dilemma* goes a step further in terms of market concentration and makes use of the exclusivity of intellectual property rights (IPR). These rights provide educational providers with a quasi degree awarding power. In other words, they are now *in* authority to ensure the authority of their services.

[19] This tendency towards a « digital monopoly » has triggered a very important discussion, both in the US Congress and the European Parliament, about how to revise competition and antitrust policy, respectively Foroohar, Rana. 2021. "EU and US regulators scrutinise Big Tech and digital 'monopoly'." in *Financial Times*.

Microsoft, for instance, awards the title of Microsoft Technology Associate, which can be upgraded to Microsoft Certified Solutions Associate or, with further training, to Microsoft Certified Solutions Expert (Hartmann, 2016). The exclusivity of the IPR makes it possible for this type of provider to keep possible competitors at bay, to minimise market risks, and to turn even the degree/credential awarding power into a business. Microsoft, for instance, does not provide the training programmes itself. Rather, the company authorises educational training centres and ensures the quality of the service. To become a Microsoft learning partner, for instance, the staff of a centre have to undergo a thorough training in the different Microsoft products and to pass an exam.[20] Other IT companies such as Adobe, Cisco, Oracle, Novell, Hewlett Packard and Sun Microsystems pursue similar franchise strategies (Hartmann, 2016). The world-wide structure of authorised training centres makes it possible to provide identical training courses across the world. The more successful these types of for-profit education providers are in scaling up the diffusion of their proprietary norms, the more revenue they can create through fees and royalties.

The combination of network effects, exclusivity through intellectual property rights and market concentration provides these standard setters with massive leverage that comes close to coercive isomorphism. Boycotting Microsoft training programmes, for instance, is almost impossible if there are no vendor-neutral training providers on the market and given the market power of Windows as an operating system (Hartmann, 2018). Interestingly, MNCs seem not to be too worried about this market concentration, since they can make use of it in order to harmonise their own company-based training. Many companies, including some I visited, make use of centralised vendor management, in particular for language and ICT training programmes (interview 10, 11). Wherever their employees take a course, the provider will be the same for the company. We thus get a sense of the importance of markets for the coordination of Global Business, not unlike the situation in LMEs, giving their companies indirectly a competitive advantage. The transnational infrastructure space that this extrastatecraft of for-profit providers establishes has become vital for MNCs and for Global Business more generally (Easterling, 2014).

The profit-driven norm diffusion that benefits from network and scale effects indicates a complex interaction between geoeconomics and geopolitics. Most educational providers who use IT technologies to underpin their authority have their headquarters in the USA. This unequal distribution reflects a more general imbalance in the high-tech sector where eight out of the top ten publicly owned high-tech firms are located in the USA and none of them in Europe, according to a recent overview provided by Forbes (see, Foroohar, 2021).[21] Alerted by the geopolitical implications of this increased dependency on US and increasingly Chinese competitors, the European Commission unveiled at the beginning of 2020 a digital strategy that seeks to increase the digital sovereignty of Europe (European Commission,

[20] http://www.thewindowsclub.com/microsoft-learning-partner [last accessed 24/04/2021].

[21] https://www.forbes.com/sites/jonathanponciano/2019/05/15/worlds-largest-tech-companies-2019/ [last accessed 24/05/2021].

2020; see, also European Parliament, 2020: 4). However, it is not clear anymore whether states are using their economy to strengthen their geopolitical position, or rather the other way around, with companies using the government where their headquarters are based to leverage their market power in the interest of their stakeholders located in different parts of the world.

11.5 Conclusions

I have argued in this paper that international education studies should not ignore corporate education. This type of education is part and parcel of further education and at the centre of a knowledge-intensive economy. My contribution sheds light on its geoeconomic and geopolitical dimensions. At its centre is a study of MNCs and their education strategies. MNCs have become important drivers not only of globalisation but also of the internationalisation of corporate education. Examining closer the education they offered to their employees, I identified an important diversity of training programmes. Often, they are framed as part of a firm-based university ranging from highly standardised, school-like trainings to more complex programmes targeting different management levels. I drew on industrial sociology and sociology of organisation to get a better idea of the institutional setup of MNCs and how it influences the type of corporate education they favour. The difference in the set-up also impacts the extent to which MNCs are interested and able to provide the same training in all their branches and subsidiaries, independent of their geographical location. The findings of a pilot study I conducted myself, as well as other studies of MNCs, suggest that international and transnational MNCs have harmonised many of their training programmes, creating a transnational space of corporate education, a new geography of centrality in Sassen's term. These findings support the World Business thesis according to which the world of global business has created their own *transnational* space that has become increasingly independent of national extra-economic institutions, although without gaining the *international* scope of World Politics. However, the convergence that international and transnational MNCs seek to achieve differs in many respects, as I have shown. International MNCs tend to privilege a more centralised and standardised top-down management of human resources. They tend to disseminate the norms and values prevailing at their headquarters accross their branches and subsidiaries. The fact that many of these companies have their headquarters in the United States brings a geopolitical dimension back into the picture. Conversely, transnational MNCs seek to use their corporate education to better integrate insights from their branches and subsidiaries. The transnational normative environment they contribute to with their educational strategy is transnational in scope, corroborating the World Business thesis. They strengthen, as a result, a transnational extrastatecraft that is able to create new geographies of centrality.

To further our insights into the enabling conditions of the norms and values MNCs disseminate by way of their corporate education, I moved on to explore the

normative environment that corporate education draws on to ensure its own authority. This scrutiny puts the coercive power of visible hand of the management into perspective, and brings to the fore the companies' dependence on a broader institutional environment to ensure the reputation of the training they offer to their employees. The degree of internationalisation of the sources of authority underpinning corporate training programmes provides further insights into World Business and its independence of national statecraft. Building on my pilot study, I have identified four different sources of authority MNCs make use of, though not in equal measure. One strategy is the accreditation of the work-based learning by professional associations. However, the low internationalisation degree of these associations sets clear limits to this attempt to make use of normative isomorphism. Most companies follow a mimetic isomorphism where they imitate each other in their attempts to prepare for the unknown future. The fact that many MNCs have adopted the term corporate university to create a framework for their training programmes is a case in point. But this example also suggests that geopolitics continue playing a key role in this context, given that the term was coined in the US and adopted first by US companies. Management strategies developed in the US are most likely to become global models, as a number of my interviewees underlined (interview 19, 20, 24). The normative influence of the US has gained further momentum as a consequence of the fourth strategy of authorisation that MNCs pursue. I have shown how MNCs have started to outsource parts of their training programmes to external providers, not at least to ensure the reputation of the training they offer to their employees. However, external education providers are confronted with a dilemma. They depend even more on being recognised as *an* authority, since the MNCs and other clients continue to be *in* authority. At the same time, however, they compete with each other and, consequently, need constantly to offer new training programmes in order to stay ahead of their competitors. The consequence is a confusing training market with competing ideas, concepts and models at risk of being short-lived, and this in turn undermines the very authority of private providers. This situation creates a competitive advantage for-profit providers that can use scale and network effects to reduce competition by keeping their competitors at bay. Some of them have become so powerful and effective in creating oligopolistic markets that consumers have little alternative to using them (Foroohar, 2021). Their norm diffusion power has thus gained an almost coercive quality. Microsoft and its different training programmes are just the tip of the iceberg. One of the reasons why MNCs seem not to be too concerned about the lack of alternatives may be that these programmes give them an indirect advantage: they support the companies' efforts to harmonise their own training programmes accross their different branches and subsidiaries. In other words, giant for-profit education providers are part and parcel of Global Business and create an extrastatecraft infrastructure.

The fact that most of them are of American origin sheds light on another geopolitical dimension of corporate education, even if its supports the rise of World Business. The American providers had a first mover advantage in making use of scale and network effects, since they started offering their services in an domestic economy that is already coordinated via the market. However, it is not clear

whether these giant companies can still be used by the US government to strengthen its geopolitical position, or whether they rather use the government to strengthen their geoeconomic position to generate profits and to provide the transnational infrastructure that Global Business requires. This is a fast-moving development that requires further research. I hope to have shown that a study of the internationalisation of corporate education is an excellent entrance point for analysing important changes of the ideational dimension of the global political and economic order and the power struggles underpinning it.

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Chapter 12
Education Hubs as a Development Approach. A Phenomenon with Geopolitical Implications in Singapore and the United Arab Emirates

Marvin Erfurth

12.1 Introduction

The field of development economics has provided compelling evidence that social and economic development occurs when an expansion of peoples' freedoms is combined with constructing social and economic arrangements—or in other words, institutions (Sen, 1999; Acemoglu & Robinson, 2008; Chang, 2010). These institutions include well-organized bureaucracies, well-designed, binding legal frameworks ensuring equal rights, and public education as a central social institution that enables people to use their freedoms and become productive members of society (Sen, 1999; Klafki, 2019). The recent focus in both academia and policy on knowledge-based economies as a model for generating growth arguably affirms education's central role in development, particularly that of higher education and research (Godin, 2005; Jessop et al., 2008). More generally, this type of social, cultural, and economic development that has proven successful over the past decades is mostly associated with democracy as a form of government (Gerring et al., 2005; Acemoglu et al., 2014). Also, international and inter-governmental organizations (IOs) have been created to promote the expansion of peoples' freedoms and democracy, which has heavily influenced the geopolitical environments of the 20th and current 21st centuries (Reynaud & Vauday, 2009). Therefore, democracies with strong public institutions have arguably become today's preferred model for development that IOs promote, with several countries newly pursuing this route, as is seen in the European Union's recent "eastern enlargement" (European Parliament, 2020).

However, there are signs of alternative development paths that do not necessarily require the development of a country's social institutions (Barbier, 2003; Badia-Miro et al., 2015). For example, the Gulf monarchies, such as Saudi Arabia, Qatar,

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and the United Arab Emirates (UAE), are receiving heightened attention for their recent development pathways, which is paired with criticism for under-prioritizing institution building (Hvidt, 2011; Mohaddes et al., 2019). Thus, Gulf monarchies' current substitution of political institution building with market liberalization and infrastructure development financed by natural resource wealth is at risk of being short-lived (Rosser, 2009; Hvidt, 2011).

On a similar note, Singapore also presents a fascinating example since instead of developing its social and political institutions towards more inclusiveness, Singapore concentrated its efforts on developing its economic and "knowledge institutions (universities, public research institutes and corporate laboratories)" Koh, 2006, p. 144). Singapore promotes education as the key to its development and has positioned itself as a globally reputed location for higher education and research, an approach to development for which it has coined the term "education hub" (Lane & Kinser, 2011; Knight, 2014; Lee, 2015). Gulf monarchies such as Qatar and the UAE have begun adopting Singapore's education hub model, arguably because this development approach aligns with their current bypassing of institution building that, instead, would require structural changes (i.e., legal frameworks, freedoms, political system changes). Also, even though the education hub approach bypasses social and democratic institution building that is commonly central to strategies promoted by IOs and the development community, the same community endorses it and rewards hub countries with a reputation of being economically and socially progressive countries (British Council, 2013; OECD IMHE, 2014; Henderson, 2012; Quah, 2018).

Thus, the education hub phenomenon has geopolitical implications that are closely linked to development as well as policy making and higher education. In terms of geopolitics, countries pursuing the education hub model are likely seeking to decrease their dependence on powerful development institutions like IOs and the current approaches they promote. Simultaneously, by adopting this development approach, countries signal to their regional neighbors that they are attempting to play a more important role in competition. A hub—whether in aviation, banking, or education—commonly flourishes in an environment of voids. For example, countries with developed higher education and research systems have an advantage in a regional environment that lacks these, which makes education hubs like Singapore successful. Thus, geopolitically, the education hub approach produces winners and losers, inequalities, and potentially conflicts, while more generally reducing the influence of established players in development. The education hub approach also impacts the development landscape because established arguments of IOs and others promoting democratic institutional development may resonate less, and new players might emerge that oppose democratic institutional development altogether.

Even though these implications for geopolitics and development are important, this chapter focuses on some of the impacts that the implementation of education hub approaches have on policy making and higher education in Singapore and the UAE. Instead of development through social institution building, this approach rather relies on infrastructure development combined with a desired cultural change.

In addition to policy making, the chapter also touches on the role of universities that, historically, have been central to developing democracies, and institutions more generally (Fisch, 2015). Despite their history, European and American universities are some of today's major players in promoting education hubs in countries that have almost contrarian contexts compared to their home countries (Lane & Kinser, 2011; Knight, 2014). Thus, this begs questions about their role, identity, and the compromises they make, and what this means for faculty, students, and the societies in which they operate.

Against this background, this chapter *first* briefly provides some insights on the conceptual and methodological frameworks of the study; *second*, it summarizes the current state of the art of research on education hubs and describes the research gap it attempts to address. *Third*, it discusses higher education policy making in the cases Singapore and the UAE by tracing how these countries' education hub approaches were developed and implemented from the 1990s to the 2010s. *Last*, the chapter concludes by comparatively discussing higher education policy in both education hubs, seeing these as governance environments for universities, and what the approach and its local adoptions mean for both geopolitics and development more broadly.

12.2 Conceptual and Methodological Notes

The chapter is based on a larger dissertation project titled "International Education Hubs in the Global Education Industry. Changing Policy and Governance in Higher Education", conducted between 2016 and 2021 at the University of Münster, Germany. It aimed at comparatively exploring higher education policy making and governance in Singapore and the UAE by using the concept of 'International Education Hubs'. Thus, it posed two overarching research questions: *First*, what is the analytical potential of current international comparative higher education research concepts used to study the phenomenon? *Second*, how does the phenomenon change policy making and governance in international higher education? The observed phenomenon—for which the term *education hub* has been coined—is that countries such as Singapore have implemented government projects that aimed to transform the city-state into an economically more competitive and socially more progressive country by means of reforming education, in particular higher education. To help answer the posed research questions, the study used a Comparative Case Study approach (Bartlett & Vavrus, 2017) to compare phenomena along three axes:

> The horizontal axis compares how similar policies unfold in distinct locations that are socially produced […] and 'complexly connected' […] The vertical axis insists on simultaneous attention to and across scales […] The transversal comparison historically situates the processes or relations under consideration. (Bartlett & Vavrus, 2017a, p. 3)

Through its three axes and a processual understanding of 'casing', the approach provided useful tools to compare Singapore's and the UAE's education hub projects as two large, emergent cases.

Conceptually, it adopted Cultural Political Economy (Sum & Jessop, 2013) to explore the cultural (immaterial-semiotic) aspects of the education hub projects in combination with structural-material ones, and, contrary to traditional approaches in the study of political economy, analyzing both dimensions as equally important. Also, it helped to explore the desired cultural changes in countries' economies and societies that governments attempt to achieve through higher education reform. In terms of methods, Critical Discourse Analysis (Fairclough, 2003) was adopted because it productively combines textual with social theoretical analysis, and thus, helped to analyze how education hubs are discursively produced, and how discursive constructs are sedimented into social structures. Two main data sets were used: *first*, 60 documents for Singapore and 38 documents for the UAE, which included political speeches, laws/legal acts, plans and strategies, reports, studies, and websites, and *second*, 9 semi-structured interviews in both countries—18 in total—with experts in the areas of policy, education industry, and academia (Witzel, 2000; Meuser & Nagel, 2009). Because this chapter discusses socio-political conditions in the education hubs Singapore and the UAE to explore geopolitical transformations pursued through their education hub projects, it focuses on the transversal dimension of both cases that explores how a phenomenon has changed over time by connecting the horizontal and vertical scales (see Bartlett & Vavrus, 2017, p. 92). Thus, it primarily draws from the analyzed documents as they "do a great deal of representational work to establish problems", solutions, and plans and help illuminate "the broader sociopolitical contexts of relevance" (ibid.).

12.3 International Education Hubs in Policy and Research

This section *first* describes education hubs as an emerging phenomenon and discusses the existing body of research. *Second*, it describes the research gap that the chapter and its related project attempt to address.

As a phenomenon, education hubs are emerging in Singapore, the UAE, Qatar, Hong Kong, Malaysia, Botswana, South Korea, Sri Lanka, Mauritius, and Bahrain (Knight, 2014), and the number of countries appears to be growing. Simultaneously, scholars and policy makers have been promoting education hubs as a model for policy making by using the name 'International Education Hubs' (Lane & Kinser, 2011; Knight, 2014). Thus, the emergence and growth of this phenomenon might be related to a positive reception of the International Education Hub model as a development approach within policy circles. To guide local experts in the implementation of the International Education Hub model and measure their progress, Knight (2014) developed a three-staged typology ranging from student, to talent, to knowledge-innovation hubs, with the latter being presented as the most advanced stage of a hub in combination with other parameters that policy makers can measure

(see Knight, 2014). Knight (2014) defines education hubs that commonly exist at the country-level as "a planned effort to build a critical mass of local and international actors strategically engaged in crossborder education, training, knowledge production and innovation initiatives" (p. 20; see Lane and Kinser (2011, p. 82) for an alternative definition). In addition to these policy advocacy-oriented contributions, international comparative higher education research (INCHER) scholars started to explore changes in the higher education systems of education hub countries. There is an increasing body of research on changing international student and faculty flows, or satellite campuses of American, British, or Australian universities in education hub countries. For example, Yale university has a presence in Singapore, or New York University in Abu Dhabi, that increasingly attract international students and are said to contribute to building "World Class Research-Universities" in countries like Singapore or the UAE (Altbach & Salmi, 2011; Kosmützky, 2018). However, other scholars caution that through such satellite campuses, universities are, in essence, part of soft power projects, and that this entanglement in soft power may have thus-far understudied consequences for universities (Nye, 2005; Lee, 2015; Tan, 2016). Outside of INCHER, a group of human geographers recently conducted a study on so-called branch campuses in several education hub locations (Kleibert et al., 2020). The authors find a concentration of satellite campuses in locations such as Dubai (UAE), Singapore, Shanghai, and Doha (Qatar), and that a clustering of these campuses commonly signals that these are part of larger education hub strategies and/or projects.

Based on these existing findings and the different aspects of the same phenomenon that scholars have illuminated—such as higher education internationalization, soft power, as well as larger government strategies and projects in which higher education is embedded—one could argue that an empirical exploration of the phenomenon within its social, political, and economic contexts could contribute new and valuable findings. Even though selected developments within national higher education sectors have been explored conceptually, a deeper understanding of how the implementation of education hub approaches impacts higher education policy and governance is currently missing. This focus on policy, in particular, would be beneficial because the available literature indicates that governments' pursuit of education hub projects attempts to achieve at least two overarching goals: *First*, to create a local environment that enables states to develop economically, particularly by promoting forms of knowledge-based competition, for which higher education and research are regarded as central components (i.e., the state as a competing organism, see Bachmann & Toal, 2019, p. 144; also Moisio, 2018). S*econd*, in addition to these politico-economic interests, states that implement education hub approaches at the country level also want to advance their position and reputation on the global political stage, which predominantly concerns cultural-diplomatic interests. Thus, both goals, with their politico-economic and cultural-diplomatic objectives, signal that states embed higher education within larger, political projects that closely link higher education policy with geopolitical and economic activities, including cultural diplomacy. Even though international student flows and satellite campuses are single aspects of this larger phenomenon, a broader, system-level

perspective could capture some of the wider implications of the education hub approach on higher education policy and governance. Because such a perspective is currently missing, this chapter and the larger empirical project to which it is related attempt to address this existing research gap.

12.4 The Development and Implementation of Education Hub Projects and Strategies in Singapore and the UAE Between 1990 and 2018

Guided by the CCS approach (see Bartlett & Vavrus, 2017, p. 92, in particular) and CPE, this section pays particular attention to how the education hub phenomenon developed and why it was implemented by political actors in both Singapore and the UAE. As described earlier, what is currently missing in existing research is a deeper dive into the "broader sociopolitical and economic contexts" (Bartlett & Vavrus, 2017, p. 89) of education hubs, and a broader perspective on the role of universities in those contexts (see previous section). This is particularly important because empirically-informed knowledge about the politico-economic and cultural-diplomatic dimensions of education hubs is, nonetheless, crucial to understanding the phenomenon better, as scholars have stressed soft power, cultural diplomacy, and commerce as important yet understudied aspects (Lee, 2015; Tan, 2016; or also Erfurth, 2019).

Arguably, such a perspective is also valuable to explore geopolitical transformations because it illuminates how and why both Singapore and the UAE are pursuing such transformations by implementing education hubs as a development approach. Therefore, this section, *first*, describes both education hub approaches that are implemented in Singapore and the UAE as state-led, geopolitical projects. *Second*, it illuminates the cultural-diplomatic dimensions of both projects, followed by *third*, discussing the politico-economic dimensions of both projects. This disentanglement of both dimensions by country/case contributes a new, comparative perspective on researching education hubs and is an attempt to cope with the incredible policy-mix that one finds when studying the phenomenon in each case (that includes higher education policy and governance combined with politics in the areas of development, diplomacy, economy, culture, location and the wider social sphere). Arguably, this policy-mix is one reason why understandings of the phenomenon remain fuzzy in both research and policy as it is hard to clearly define it simply as a higher education phenomenon or one of, for example, development economics. Thus, this chapter's adopted perspective does not study higher education by its different subject matters (such as student flows, internationalization strategies, among others), but rather looks at higher education as an object that is changed by different political actors inside and outside of the sector to achieve objectives that are related to geopolitics (or, put differently, as a tool to pursue geopolitical transformations through cultural-diplomatic and politico-economic means). Last, *fourth*, this

section uses the discussion of the phenomenon's dimensions to explore some of its geopolitical implications and the transformations pursued by states such as Singapore or the UAE.

12.4.1 The Political and Economic Contexts of Singapore's and the UAE's Education Hub Projects

This sub-section, *first*, describes Singapore's education hub project and its rationales, and *second*, describes the same in the context of the UAE. Both descriptions embed the countries' education hub projects within wider socio-political and economic contexts that ultimately drove changes within their higher education sectors.

Singapore's ambitions to develop a country-level education hub are arguably related to the end of the Cold War and the shakeup of the global order. In the greater scheme of things, one might say that market capitalism succeeded over communism in the early 1990s. This meant that an increasing number of (formerly) communist countries likely started changing their production, trade, and consumption, which was a great business opportunity for the global private sector. Its geographic location placed Singapore, a former British colony, in proximity to the former "communist world." Singapore's political leadership arguably saw that it could benefit significantly from new business if it could signal that, out of the many shipping ports available for facilitating trade in the region—including neighboring Malaysia, or Indonesia—it could function as the regional gateway—a hub—to the Asian economies that were likely to reform as a haven for both capital and companies from the capitalist West. In this respect, Singapore made some very strategic decisions in the early 1990s that signaled not only its embracing of capitalism but also a desired closer ideological association with the US as a strong advocate of market capitalism and the world's main superpower and positioned itself as a hub of many sorts, such as in aviation, banking/finance, and other sectors. Part of this hub-transformation was also higher education, with Singapore implementing a large, state-led project that later became known as its education hub approach (Lane & Kinser, 2011; Knight, 2014).

The UAE arguably observed Singapore's rapid development in the 1990s and decided to also establish itself as a regional hub. Even though the exact beginning of the UAE's country-level education hub project remains fuzzy, it most likely began around the time of several leadership changes in 2004 (and following years) in the emirates of Abu Dhabi and Dubai as well as at the federal UAE level. Sheikh Mohammed bin Zayed al Nahyan, the Crown Prince of Abu Dhabi, and Sheikh Mohammed bin Rashid al Maktoum, Ruler of Dubai, Vice President and Prime Minister of the UAE, both took the reins to continue the modernization agendas their fathers had begun (see also Jones, 2017, pp. 49–50). Part of this modernization was—and still is—a reduction of the government's reliance on oil revenues for its budget, a strategy that economists call economic diversification. With the Middle

East region thrown into war and crisis at the time, the new leadership shifted its focus and attempted to rapidly integrate into the global, rather than regional, economic system. In combination with economic diversification, global economic integration became the driving factor of the UAE's state-led development project. However, the UAE's attempts for global economic integration have significant differences between Abu Dhabi and Dubai. This matters because even though the UAE is a federation of seven emirates, this chapter's data analysis shows that policy and governance in the UAE are mostly driven at the federal emirate level, at least in Abu Dhabi and Dubai.

A big challenge to global integration at the time was that the UAE is located within a region that large parts of the world associated with a negative image. Thus, the UAE's state projects included attempts to change this perception into a more progressive image of the UAE to support its recognition on the world stage, with higher education and research playing an important part. Although absent at the national level, federal-level higher education projects have become central to an attempted association with more progressive and modern values, such as the use of cultural artifacts in Abu Dhabi in particular, and have thereby become strategic elements for its development. As stated earlier, the UAE attempted to establish itself as a hub as its general approach to development. A central part of this hub-transformation are its current higher education projects that later became known as its education hub approach (Lane & Kinser, 2011; Knight, 2014).

12.4.2 The Cultural-Diplomatic Dimensions of Singapore's and the UAE's Education Hub Projects

Re-shaping the world's perception about both Singapore and the UAE are central to their current development approaches. Thus, one geopolitical transformation that both countries pursue is a more central, important role they want to play in the international community, and that the same community accepts both states as equals (in terms of their developmental state). However, as discussed earlier, neither state is so-far signaling to pursue the social and political institution building that the international community usually promotes and requires. In this context, Singapore's and the UAE's education hubs have a very distinct cultural-diplomatic dimension: Both countries developed political strategies that use higher education as a tool that helps alleviate their positions on the global stage even though they, to date, bypass important aspects such as institution building. Through such strategies, both countries have developed a reputation for being places where talent and companies move as entrepreneurs and innovators, with Singapore arguably being more successful in this regard compared to the UAE, and both countries hosting important international summits or act as brokers/mediators in regional conflicts.

Singapore began to discuss its first attempts to attract scientists, researchers, and executives to increase its chances of becoming the location in Asia that global

companies would choose for their regional headquarters in the early 1990s. Therefore, the drivers of these first attempts were largely politico-economic. What might seem like a minuscule decision, yet one that was predicated on a change in the order of discourse at the time, was the idea of launching a strategy called "Boston of the East," implemented in 1996 and 1997, and which was likely influenced by the then ongoing Asian financial crisis. Boston is known for being an important place in the US for science and innovation, and in combination with that, economic power. However, at the time, a place with comparable attributes was missing in Asia. Thus, Singapore attempted to replicate the mechanics of Boston's success—higher education, research, and commerce—in the city-state to re-invent itself as the "Boston of the East". As the region was in crisis, this decision signaled that Singapore decided to shift its focus from regional to global integration, with the global economy as its new frontier, and its education hub project providing the driving factor for such pursuit; to become a globally reputed location for higher education and research. As a consequence, Singapore launched a higher education project that aimed at distinguishing the city state from its own region to stand out as the best place to do business in Asia. It decided to remodel the National University of Singapore (NUS), and—perhaps very strategically—the Nanyang Technological University (NTU) that was founded by the Chinese, and which was therefore a potential signifier of communism, after Harvard University and the Massachusetts Institute of Technology. This was the start of a higher education regional project ideologically associated with market capitalism, and the US in particular, that placed higher education at its core, signaling that Singapore would also accordingly educate its elites and future leadership (see also Barr, 2014).

One component of this project was to develop closer diplomatic ties with the US, "one of its [Singapore's] best friends (though never a formal ally)" (Barr, 2018, p. 121), through cultural exchange, in particular higher education. However, Singapore also wanted to become the place for (re)educating the regional elites in the wake of policy reforms by Asian neighbors that were beginning to embrace market capitalism. Thus, it saw these neighbors rather as competitors than friends against which it needed to succeed in regional competition and wanted to build the capacity to influence regional politics by educating future political, social, and business elites and exert soft power. The scope of the educational offerings in Singapore ranged from training for company executives to future Singaporean public administrators, as well as those of its neighbors, which meant both income and, more importantly, influence through higher education and partnerships. For instance, the Harvard Kennedy School set up a policy program with the NUS in 1992, which later became the reputed Lee Kuan Yew School of Public Policy that educates the national and regional policy elite. With hypothetically comparable reasons in mind, New York University Tisch School of the Arts was set up to educate the regional creative elite (this, however, ultimately failed), with Yale-NUS being another current pioneer project as the first and most reputed liberal arts college in the region since 2011. Singapore can be considered to have been successful with its Boston of the East regional project, which entails transforming NUS and NTU into reputed global universities, modeled after the American Ivy League and the way in which it

attracts scientists and students to attend those universities by positioning itself as a reputed location for higher education and research; or, rather, the prime location for that matter on the Asian continent, which is a geopolitical transformation it ultimately wanted to achieve. This cultural-diplomatic project with a hardly quantifiable outcome (yet presumably high intangible return) is ongoing and one that is largely financed by the Singaporean government. This is noteworthy because it is very different from projects and strategies that are illuminated with regards to Singapore's education hub's politico-economic dimension that is discussed later.

Even though the UAE's most prominent emirate is Dubai, its capital is Abu Dhabi, and the emirate has become a sophisticated regional and global player that uses cultural diplomacy to influence politics. One could discuss higher education in Abu Dhabi from a marketization perspective as the emirate has a growing private higher education sector with, for instance, INSEAD or the Abu Dhabi University. However, its state-funded, rather niche-higher education sector is particularly relevant for this discussion of geopolitical transformations and cultural-diplomatic projects that impact higher education and policy. Its massive oil and gas reserves position the UAE's capital in a favorable position to finance the operations of highly reputed international universities, such as the New York University Abu Dhabi (NYUAD). By populating its cultural landscape with foreign, high-culture artifacts, the emirate associates itself with the reputation of those artifacts to achieve a recognition as a socially progressive place that supports the arts, higher education, and research: "The UAE was built on our Founding Father Sheikh Zayed's foundational values of tolerance and peace, and stability. His guiding strategy was to show friendship towards all cultures and peoples, to promote moderate Islam and to work for mutually advantageous cooperation with all nations" (MoFAIC, 2020). By hosting so-called world-class museums, such as the Louvre Abu Dhabi, and universities, in particular a renowned liberal arts university such as NYUAD but also the Sorbonne, the emirate signals that global high culture and academic rigor are both welcome and desired in the Middle East, and Abu Dhabi has culturally as much to offer as "global cities" like Paris or New York. The signaling is simple, but the effect on the country and the international reputation it has gained is enormous: "In 2020, the UAE ranked first in the region and 18th internationally in the Global Soft Power Index. This is a testament to the nation's on-going commitment to ensuring an environment of opportunity, innovation, development and tolerance" (MoFAIC, 2020). Although this development is not solely attributable to the described higher education reforms the emirate has implemented, they play an important role. Hence, the cultural-diplomatic dimension of Abu Dhabi's education hub project pursues greater regional and global influence as a targeted geopolitical transformation and is an attempt to project an image of progressiveness to the world.

12.4.3 The Politico-Economic Dimensions of Singapore's and the UAE's Education Hub Projects

Singapore's "Boston of the East"-idea discussed earlier epitomizes the politico-economic dimension of the geopolitical transformation that both Singapore and the UAE pursue through their education hub approaches: Replicating the impact that Boston has on the American economy by attracting universities, students, and companies, believing this combination will create the desired effects in Singapore and the UAE to advance their local economies. Thus, the goal is to become the most reputed, regional places for higher education, research, and knowledge-intensive work, which again, contributes to being perceived as highly developed countries by peers on the global stage. Universities, their faculty, and students are also regarded as knowledge workers and a significant economic factor as they pay taxes, rents, and have general spending activities from which the economy benefits. The political strategies put in place in both hubs to achieve this Boston of the East-idea was a rapid expansion of their private higher education sectors, combined with the liberalization of entry requirements for universities to operate in local sectors. Thus, in terms of the politico-economic dimension of education hubs, both countries have established free-market environments for higher education industries with the expectation of direct returns to their economies. However, an important finding for higher education policy, universities as actors, and students as learners is that even though the projects have helped both Singapore and the UAE to achieve their desired geopolitical transformations, the bottom line is that these projects come with risks for both universities and students that usually remain overlooked in discussions about education hubs.

Singapore's private higher education sector expansion began with the desire of its leadership to tap into the growing international higher education market in the 1990s. Its Economic Development Board and its parent organization, the Ministry for Trade and Industry, in coordination with the Ministry of Education, began to promote and push for attracting well established "world-class universities" to the island. The aim was to create and commercialize an international higher education sector by attracting students and universities (Ng & Tan, 2010) whose contribution to the national economy was then measured and reported in these organizations' annual reports. After initial successes in the late 1990s, Singapore launched a strategy that, since 2002, has become more widely known as the "Global Schoolhouse". However, the project began delivering below-expectation outcomes and arguably led to market failure epitomized by the opening of an Australian university in March 2007 and its closure in June of the same year (Ng & Tan, 2010). This led to a silent death of the education hub project, a doubling down on regulation and quality assurance, and several subsequent attempts to fix the regulation of its private higher education sector.

With regards to the UAE, the focus of the politico-economic dimension of its education hub is not on its capital Abu Dhabi but the emirate Dubai. Contrary to Abu Dhabi, it cannot rely on income generated by business from oil and gas

resources and, therefore, positioned itself as the central regional location for logistics, air travel, tourism, or business, and has succeeded in coining the term "hub" for itself. The emirate has had tremendous success in implementing this strategy through the wide use of the economic zones it has created. For instance, the Dubai International Financial Center is a dedicated area of business park-sized buildings that imitates/adopts British law so that companies and bankers in Dubai can trade almost as if they were in the City of London. Since 2003, the UAE has been experiencing an accelerating influx of expats. This has to do with the country's development, which, in turn, provides many employment opportunities in the service sector. In combination, this trend has created a labor market that increasingly needs skilled labor and a growing expat population, with children who attend private schools and universities for expats. For this reason, there has been an increase in the number of private international universities being founded in Dubai in particular: two in 2004, four in 2005, and four in 2006, only counting those that are still operational, and being aware that several have had to close. In addition, this increase might also be related to a desired social change through more modern education by the country's leadership to prepare citizens better for the global economy, as promoted in current strategies such as Vision 2021.

Arguably, while pursuing a larger project that attempts to combine global integration with economic diversification, both the international universities and the emirate of Dubai recognized that the growing number of expats and Dubai's increasing popularity might turn international higher education into a business opportunity. However, to prevent the exploitation of students and parents, the emirate founded a quality assurance agency, the Knowledge and Human Development Authority in 2006, after which the numbers of private university incorporations per year have declined. Thus, this could be interpreted as a doubling down on regulation and quality assurance in the sector. In addition, the world was hit by the global financial crisis in 2007 and 2008, after which new incorporations of private universities have remained steady with, on average, only one per year. Today, Dubai has the second highest number of branch campuses in the world (33), behind China (36) (EY Parthenon, 2019), most of which are located in dedicated economic zones for higher education and training services that host most of these branches in business park-sized buildings.

In recent years, Dubai's quality assurance agency and its economic zones for education have started to push the label education hub for the emirate to increase the number of inbound international students and universities. In Dubai's case, the creation of physical agglomerations of branch campuses in its economic zones have led to a reputation for the emirate to be perceived as an education hub by others (Knight, 2014). In policies, its hub is described as significantly contributing to Dubai's economic diversification, particularly the associated skilled labor needs, as well as helping to project a more progressive, metropolitan image of the emirate. The project to transform Dubai into a hub and to move from the sole provision of teaching through importing branch campuses to creating a space for research, is described as the long-term goal of this project. Currently, this project can be regarded as the

creation of an international higher education industry in Dubai with the goal of generating profit for investors and providers, in particular.

12.4.4 Geopolitical Implications and Transformations Through Education Hubs

The discussion of the phenomenon's politico-economic and cultural-diplomatic dimensions in Singapore and the UAE arguably illuminates both geopolitical implications and transformations. Thus, this sub-section draws the two conceptual lines of 11.4.2 and 11.4.3 together to, *first*, describe some geopolitical implications for the international development community and its current landscape. *Second*, these implications are generated by the geopolitical transformations that are pursued by education hub countries such as Singapore and the UAE, which are also being discussed.

First, in terms of geopolitical implications for development, education hub countries' strategic use of higher education expansion leads the development community to support this approach because this community promotes the same expansion as a development parameter (British Council, 2013; OECD IMHE, 2014). In addition, this community rewards education hubs with a recognition as socially and economically progressive countries, which, in turn, leads to an increasing prominence of the approach in policy circles, particularly in Asia. Nonetheless, the geopolitical implications that the development community so-far overlooks are that this approach to development creates regional winners and losers and increases competition for students, universities, and companies. It is contrary to other, more collaborative approaches that are usually promoted, such as in the European Union. Also, because the approach allows the avoidance of social and political institution building that IOs and other players commonly promote, the influence of traditional players that also promote democracy on the global stage, including their arguments, might decrease. Considering that nearly all education hubs are strategic geopolitical locations—such as Hong Kong with its increasing influence from China, the UAE as an emerging diplomatic player in the Middle East and its newly brokered relationships with Israel, and also Singapore with a similar role in South-East Asia—, the support for this model risks to undermine the development community's efforts to advocate for a more democratic, socially progressive world.

Second, the geopolitical transformations that education hub countries pursue, which are a greater role on the global political stage and economic diversification, increase the competition between countries and the aspect of regional winners and losers discussed earlier. More importantly for INCHER and universities as actors, these transformations create a politicized environment for universities in which they are both central subjects and objects of diplomacy. Even though this chapter does not specifically focus on universities, the exploration of the phenomenon's politico-economic and cultural-diplomatic dimensions illuminates education hubs as higher

education policy and governance environments. Because the education hub approach—based on the analysis of Singapore and the UAE—does not desire universities to contribute to the development of local social and political institutions more widely, their social function is different from the role that they historically played in, for example, Europe's social and economic development (Fisch, 2015). Arguably, universities are stripped of such wider social functions and are predominantly seen as economic tools for research output and the production of graduates for knowledge-based economies. Thus, even though degrees and programs have similar names, the students' experience at European or American satellite universities in education hubs are likely to be different from the ones they would have in universities' home countries—because of the lack of universities' wider social functions in education hubs. Also, the undesired social and political contribution of universities and their scholars in local contexts might be one reason why most programs that are offered are in the natural sciences, and, for example, not in the social sciences. Even though these are important issues for both higher education policy and provision, research and debates on these matters remain scarce.

12.5 Conclusion

This chapter departed from the paradoxical observation that even though the education hub approach is one that contradicts development approaches that are promoted by the international community because it bypasses social and political institution building, the same community regards education hub countries as progressive because of this adoption. In addition, countries such as Singapore are lauded for their development. Thus, as I will argue below, the phenomenon has several geopolitical implications. At the same time, the previous discussion of the state of research about this phenomenon showed that scholars promote it as a model for policy making, primarily discuss it in equally affirmative ways as the development community, and that empirical findings are scarce. In addition, most research perspectives narrowly focus on hub-countries' higher education sectors, which partly explains why the current education hub debate more generally has a strong focus on higher education internationalization. Therefore, contrary to more prominent contributions that promote education hubs as an approach to system-level higher education internationalization (Lane & Kinser, 2011; Knight, 2014), this chapter adds to an emerging debate that articulates the soft power and cultural diplomatic aspects of the phenomenon but so-far remains outside of broader social scientific discussions (Lee, 2015). Although the chapter's focus on Singapore and the UAE and the analysis of policy documents as a singular source limits its scale, scope, and ability to make general assumptions about the larger phenomenon, it illuminates that higher education in the hubs Singapore and the UAE is rather an object/tool in the pursuit of geopolitical transformations than a sector that is internationalized for the benefit of learners and educators. In addition, it shows that social and political institution building is substituted by market liberalization, infrastructure development, and the attraction

of foreign universities and other players. Thus, the approach risks that Singapore's and the UAE's recent development is rather short-lived. More broadly, research on the phenomenon and its consequences for universities and geopolitics is scarce, and this chapter lacks the wider empirical basis to discuss these aspects further. However, they are central for discussions about development more broadly, and for higher education internationalization more specifically that so-far avoid articulating some of the challenging, rather controversial, and under-studied aspects of higher education's recent global expansion.

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Part III
Subjectivities and Subject-Formations

Chapter 13
Fostering the 'Promising Student' at the Outset. The Digitization and Management of Student Success in the Competitive University

Christiane Thompson, Sabrina Schröder, and Daniel Wrana

13.1 Introduction

The recent publication "The Future of Universities Thoughtbook" (FUT, 2018), a collection of forty short texts, supported by the European Commission, deals with the question "how engaged and entrepreneurial universities will drive growth and shape our knowledge-driven future until 2040" (ibid., front cover). The book's vision of the "university 4.0" is that "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" (ibid., 6). The future university is presented as a nodal point in a well-aligned network of knowledge-driven development that connects the university with industry, government, and societal agents. Within this narrative of knowledge-driven developments, "academics and students" are depicted as the university's driving force. While the aim of universities regarding their students has been to provide them with higher education to develop their professionality, the vision for the "university 4.0" sees them as nodes in a dynamic network of knowledge production (see also Minerva, 2020). "Students and academics" should become drivers of innovation for the society of knowledge. The envisioned university is depicted as a sphere that processes innovation through manifold connections and relations. Higher education learning is presented as "flexible, collaborative, project or

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challenge-based and cross-disciplinary, allowing students an active role in the design of their educational experience" (ibid., 11).

Visions of this kind can be found in many policy texts published in recent years, particularly those driven by the think tanks of international organizations.[1] While they claim to describe an anticipated future development, they rather sketch a 'big picture' of metaphors and desires for a set of reforms and policies that have transformed the university in the last decade. In these visions the university plays a crucial role in Europe becoming "the most competitive and dynamic knowledge-based economy in the world" (European Union, 2000). The concepts of entrepreneurship and competitiveness are supposed to shape the desirable behavior of individuals and organizational entities in order to activate and increase their performance. Recently, these concepts have been linked to the ideas of interconnection, datafication and digitization. It is noticeable that the vision of a "university 4.0" – as mentioned in the Thoughtbook – is put in concrete terms with respect to the students. Their essential role in the framework of competition is reflected in the question of how universities can attract the 'best students'. This competitive task differs from recruiting the best academic staff because the choice of students has consequences for their performance. Universities have to find the most 'promising student'.

This chapter will investigate the ways that students are addressed and constituted as innovative subjects who are supposed to take part in the competitive university. Our particular focus will be online assessment tools that are used by universities to provide students with information on study programs and advice on their choice of study options. These *online self-assessment tools* or *online study choice checks* (in German abbreviated as 'OSA' – we will use this acronym here) are somewhat idiosyncratic tools established in the governance of German universities in the past two decades. They are a governmental strategy to engender and generate the idea of a 'promising student'. In this chapter, we will analyze them as an important instrument of subjectification in the geopolitical arena of knowledge-based economies. OSAs are used by universities both to develop and present a certain profile to prospective students and to recruit and select the 'best suitable' students to university programs. Therefore, OSAs are processors of opportunity and guiding instruments. They provide a platform of self-presentation and marketing for faculties and departments. As a consequence, they perform the act of matching students and the university as an organization and they call on them both for transformation and optimization.

We will go into greater detail on the structure of these tools at a later point in the chapter, but here we offer an initial introduction. OSAs are mostly implemented as digital tools that contain questionnaires relating to areas of interest, previous experience and, most notably, expectations that the prospective student might have. They also include tests of cognitive skills. At some universities, the completion of an OSA is optional; in other institutions it is a prerequisite for being admitted to a program. We will predominantly, though not exclusively, refer to the usage of OSAs

[1] See also the chapter by Parreira do Amaral, Chap. 3, in this volume.

at German universities, where they have come into wider use during the past ten years.[2] It is important to mention that, in Germany, admission to a university is not dependent on a general aptitude test as in some countries. Enrolment depends only on success in secondary education. OSAs are introduced as instruments of regulation in the transition from secondary to university education. We will demonstrate in what follows that the way they work is based on self-reflection and self-evaluation, and thus they are crucial for establishing competitiveness in the university.

Our aim in this chapter is to reconstruct OSAs as an essential element within a competitive geopolitical framing of higher education. We will investigate how the digital formation of the OSAs connects the choice of study programs to algorithmic rationalities and how their attempt to target promising students has to be seen in context of the geopolitical regime of competition in higher education. In this regime, students – as well as student satisfaction, their academic achievements, and their compliance with the program – are an indispensable resource and medium of competition.

In the first part of the chapter, we will elaborate how competitiveness currently forms a geopolitical apparatus that reorganizes higher education. We will show how competition and competitiveness are linked to practices of comparison, metrification as well as evidence-orientation. Our line of argument is based on Foucault's and Deleuze's accounts of governmentality and transformations of disciplinary power (Deleuze, 1992; Foucault, 2004). In the second part, we will turn toward the OSAs and to how they are utilized to enact the ideas of excellence, risk management as well as selection. By implementing OSAs, universities and prospective students 'invest themselves' in order to enable innovative futures. On this basis, we will delineate the subject-formation of being a 'successful' or 'promising' student in the third part of the chapter. We will argue how – according to the measures of digitization and learning analytics – the differential of digital self and digital optimum addresses prospective students to become an 'entrepreneurial academic subject'. The chapter concludes with a reflection on the educational consequences of these transformations for higher education.

13.2 Competitiveness in the University and in Higher Education

In his recent contributions on the geopolitics of the knowledge-based society, Moisio (2018) emphasized the connectivity that "becomes a crucial resource in the emerging 'global network civilization' in which 'mega-cities compete over

[2] Hell et al. have counted more than six hundred self-assessment tools in Germany (Hell et al., 2018, 133). There is a wide range of types and forms of OSAs. In recent years, there have been attempts to collect them on a single platform (see www.osa-portal.de; cf. Höft and Hell 2017). The wide range of tools is as confusing and diverse as the study programs: In 2019, there existed roughly 20,000 study programs in Germany (see HRK, 2019).

connectivity' and in which state borders are increasingly irrelevant" (ibid., 5; see also Moisio, Chap. 2, in this volume). Connectivity becomes relevant for universities, which are increasingly involved in the construction of geopolitical arenas. The connecting practices might be instituted regionally or nationally – as for instance in the excellence programs for universities in Germany – but they are also constituted on a global level. To set the connected entities in competitive relations, rankings and other metrical practices is essential to this. Evaluations, the emergence of a new and all-encompassing audit culture (see Spooner 2017), etc. lead universities to understand themselves as neoliberal competitors who rival others through the enactment of their own efforts at optimization; a rivalry that is quantifiable, measurable and correspondingly comparable (Dimitrova & Dimitrova, 2017). Erkkilä and Piironen (2020) demonstrated recently how university rankings foster competitiveness on a global scale: "[T]he global university rankings help to transfer the global imaginaries of competition to regional and local level" (ibid., 39).[3] Rankings provide the data and assessment criteria to make policy intervention possible.

The use of rankings brings about a changed normative framework by transforming the respective organizations into competitors: Institutional routines and processes as well as mission statements have to be changed accordingly. For the area of research, Bröckling and Peter (2017) have demonstrated that 'excellence in the university' is linked to the task of presenting oneself as excellent and of permanently working on one's own self-optimization. One of the central elements of competition is the technology to "discover" excellence by constructing a market environment that operates on the grounds of indicators and rankings (ibid., 292–294). The excellence program in Germany or the Research Excellence Framework (formerly Research Assessment Exercise; RAE) in the UK are examples of technologies that constitute these market environments (for the RAE see Schäfer, 2019): Researchers in a particular field of research have to compete with their colleagues in terms of their publications and even their future research plans: Who has the most innovative ideas? As the academic organizations in the connected network are their own review bodies, they form a tribunal in which they are both the judges and the judged. This recursive relation increases the identification with the self-established criteria of excellence.

In the realm of teaching in higher education, there have also been developments toward competitiveness, but here the formation of an environment of competition differs: The competitive advantage of a university is rooted in the possibility that the university can offer its students a successful course of study. There is a paradoxical relation in this possibility: Universities compete over the student's potential future effort. For some time, universities have collected data on student dropouts and the time that students need to successfully complete their study program. With the advance of datafication and the rise of so-called 'learning analytics', it becomes possible to analyze 'correlations of success', i.e. to make out the student features that will most likely lead to a successful course of study. With these digitized

[3] See also Boyadijeva, in this volume.

practices, the universities gain capability to manage the uncertainty of student success. One way to do so is to use the collected data for the elimination of contingency and uncertainty (see Amos, 2019).

The identification of the 'promising student' is not simply a matter of finding the naturally given talents, however. Rather, it means to address students with respect to their potential success through self-evaluation and self-optimization. It is a particular way of 'being a student' – the desired way in a competitive university – and this is where the study choice tools come into play: They are rather instruments of self-exploration and the point of departure for a promising future.

The governmental subject-formation of the 'promising student' has to be seen in close connection to today's demands for permanent development, production, and self-improvement (Foucault, 1993, 2004; Deleuze, 1992). Disciplinary forms of social control are increasingly replaced by a "progressive and dispersed installation of a new system of domination" (Deleuze, 1992, 7), which installs "ultrarapid forms of free-floating control" (ibid., 4). These "data-based" (Bächle, 2016, 164) "societies of control" operate through continuous variations and numerical modulations (Deleuze, 1992, 4). Deleuze also points out that educational institutions such as the university are handed over "to the corporation" (ibid., 5). Clearly, this implies an enormous potential for control: Whereas – in earlier times – individuals were time and again released from a particular institutional formation (e.g., after an examination), within societies of control there is no dismissal anymore (ibid.). Following Deleuze, this control is also related to the connectivity between different areas and institutions and we read this as a particular manifestation of the geopolitical transformation of higher education. Take e.g. the ways that universities and corporations are linked by cooperative study programs or by 'service learning'.

According to Deleuze, institutions are transformed from sturdy patterns to "continuous network[s]" (ibid., 6). The orientation towards corporations requires flexible compounds and sustained ways of networking and consolidation that makes any notion of stagnation or final destination impossible. As Deleuze puts it: "The family, the school, the army, the factory are no longer the distinct analogical spaces that converge towards an owner – state or private power – but coded figures – deformable and transformable – of a single corporation that now has only stockholders" (ibid.). Even though we are skeptical of Deleuze's totalizing concept of "corporation", we think that his references to deformation and modulation are helpful to understand current changes in the domain of higher education where study programs, university degrees, as well as student experiences become accessible for modulation and governmental subjectification (in this context see Ott, 2015).

It does not come as a surprise that quantification and new forms of conduct through numbers are particularly relevant to constitute these networks. They are the reference point by which stakeholders relate to one another. Wæraas and Solbakk (2009) even point out – following Bleiklie and Kogan (2007) – that the modern university can be characterized as a "stakeholder university" rather than an academic community (Wæraas & Solbakk, 2009, 450). The connectivity between different stakeholders – e.g. students, teachers, but also "governmental agencies" (Greller & Drachsler, 2012, 46) or "commercial service providers and even

automated [computer] agents" (ibid., 44) – transforms the university into a geopolitical nodal point of opportunities. However, one also has to acknowledge that the production of data and numbers becomes more and more relevant to drive and transform the competitive efforts of the university. Put differently, quantification becomes a medium and driving force for governmental rationalities. In order to delineate more closely how the governmental subject-formation or subjectification of 'student experience' or 'academic subjectivity' operates in line with this development of quantification, we will turn to the OSAs as one very important instrument that universities employ for managing student success.

13.3 OSAs: On the Management of Risk and Student Success

The topic of admission to universities is a complex issue that equally touches upon economic, political, and cultural conditions of academia and is a central concern for university governance. Depending on these conditions, the admission to a program can be dependent on general aptitude tests, on recommendation letters (mostly in M.A. programs), on application essays, etc. Some instruments design or construct the choice of study as a self-reflective process. This is the case in 'admission interviews', for example, where prospective students are asked to reflect on their motivations for study. The OSAs are another example of addressing prospective students with respect to their compatibility with the study program. The example of Saxion University in the Netherlands illustrates how the study choice counseling operates.

In a 2-min Youtube video, the university informs international students about the admission procedure (Saxion, 2020). The friendly voice in the videoclip first informs the viewer that the "study choice check" is not an entrance exam and does not have any influence on the admission process. The voice continues: "At Saxion, we believe that making the right choice when it comes to your study choice is very important" (ibid.). The "study choice check" is seen as the very instrument that allows prospective students to make this "right choice": "With this check you get a good idea whether the program will be a good fit for you" (ibid.). The instrument makes use of assignments appropriate to the study program (e.g., case study) and – depending on the program – combines this with an advice session. The final image shows a wooden toy known as a "shape sorter". Three possible results are distinguished in the video clip: a full match between student and program; a sufficient match (i.e., with advice to put in some extra effort in some areas); and no match, followed by the explicit advice that it would be better to "choose a different degree program" (ibid.).

As can be concluded from this short example, the 'study choice check' has to be seen as an advice instrument that redefines the transition to the university from a collective appointment (remember the inauguration lectures given by scientific personalities such as Horkheimer to first-year students) to an individualized situation

of choice and self-reflection. Ott et al. have described OSAs as "a form of diagnostics that one applies to oneself" (Ott et al., 2017, 217, our transl.). When analysing these and similar programs, progress reports from universities, and policy documents from the German context, the strategic significance of the OSAs becomes evident. In what follows we will emphasize three aspects: the discovery of talent; the reduction of costs and risks; as well as the refinement of the university profile.[4]

As mentioned before, OSAs are developed by universities to foster the success of students by improving their decision-making about what to study (Heinitz, 2017). In 2004 the German advisory council of research and science (*Wissenschaftsrat*) recommended the implementation of "aptitude assessment procedures for the purpose of counselling" in order to improve the match between students' entry qualifications and requirements of the study program in advance of admission (see Wissenschaftsrat, 2004, 6). The idea was to set an expectation that prospective students would reflect on their suitability for a study program and thus reduce universities' dropout rates (ibid., 4).

It is mentioned time and again that the OSAs are the best way to find suitable applicants for a university's study program (Ott et al., 2017, 221). Even though the results may not play a role and there is no obligation to follow the results or advice of the OSAs, the proponents of this instrument explicitly and deliberately count on processes of self-selection, i.e., that students with negative results will change their plans or alternatively compensate their deficits. More particularly, the aim is to come to a "well-founded self-selection" (Thiele & Kauffeld, 2019a, 275, our transl.). However, the OSAs are also geared towards finding the best-fitting students: The OSAs are required to be "resource-oriented" and not merely "deficiency-oriented" (Wolff-Grosser, 2018, 93, our transl.).

This last remark – as with the above-mentioned Youtube example from Saxion University – shows that the OSAs cannot be reduced to a method of 'limitation of access' to the university. Rather, the idea of the 'match' and the promised harmony between student and program redefines the 'location of study'. In the documents we find the notion of an "agreement in values" (Thiele & Kauffeld, 2019a, 275; cit. Heise et al., 1999), the "perfect fit" between person and study environment, which will lead to, among other things, a higher student satisfaction and study success rate (Thiele & Kauffeld, 2019a, 275). The university offers, in other words, the perfect environment to bring students on their way and realise their potential.[5] Accordingly,

[4] In this chapter we cannot provide a full discourse analysis of the collected text material. Our aim is to identify central motifs or aspects of the strategic relevance given to OSAs. The text material mostly stems from progress reports from universities as well as programmatic texts from university policy. Furthermore, it also contains how-to-instructions or manuals for the implementation of an OSA at a university (e.g. Weber et al., 2019) as well as critical self-reflections concerning the scientific standards of expertise and evaluation. We will not discuss the OSAs with respect to their quality or evidence. Existing empirical studies (see for instance Dietrich et al., 2019; Höft et al., 2019; Röder, 2017) show that many universities provide insufficient OSAs: Only 61% of the analyzed tests were evaluated adequately (Thiele and Kauffeld 2019b, 127).

[5] Simultaneously, the university can reduce the risk of investing resources without return (see Schröder et al., 2018).

the ‘location of study’ is personalized: With the help of OSAs, the universities do not remain “anonymous educational institutions” (ibid., 234). The OSAs can establish loyalties and are an active sight of “educational branding” (Adler et al., 2019, 41).

13.4 Student Subject Formation and the Quest of Data

In the previous part of the chapter we demonstrated how OSAs are implemented in order to produce and manage the uncertainty of study success. By providing prospective students with information on how far their interests and preceding experience match the study program, they learn whether their expectations correspond to the respective study program. By performing the OSAs, prospective students become aligned with the vision of successful study. The universities provide materialized hints to show exactly what they aspire to: the idea of an ideal-student that fits the program perfectly. At the same time, prospective students are asked to examine themselves according to this ideal.

The quantification of ‘auspicious starting conditions’ is made possible by collecting and analyzing data. This opens the possibility for a ‘responsible study choice’. The more data that is available, the more explanatory power will be attributed to the insight into the ‘black box’ of the prospective student. With respect to educational data mining (EDM), Behrens and DiCerbo speak of a shift from the “digital desert” to a “digital ocean” where the abundance of digital data will revolutionize the nature of human intellectual and cultural history (Behrens & DiCerbo, 2014, 39f.). According to Bächle, it is this abundance of data that advances the power of the societies of control by simultaneously promising a total “legibility of the self through data” (Bächle, 2016, 172; our transl.).

In the present context, the problem definition that underpins OSAs within higher education is that many students do not fit the chosen program and drop out. Hence, there has been extensive research to identify the indicators of student failure – Antunes (2010) speaks about “ASAP classifiers” that could be implemented to automatically predict a student’s probability of success or failure in order to implement countermeasures at the earliest stage possible. The OSAs are a very interesting alternative in this regard: “Problem students” can be identified even before entering the program. Furthermore, the OSAs foster a ‘data perspective’ on students because they address a wider range of student characteristics. These support the construction of “learner models” in order to make out the predictors of study success (cf. Pea, 2014).

Recent developments in learning analytics and educational data mining have nourished the idea that student learning can be technologically enhanced (Larusson & White, 2014). The idea is that data makes special needs and possibilities of optimization accessible so that educational interventions can be implemented with respect to the individual student (Greller & Drachsler, 2012, 54). Amos (2019) gives an example from the University of Arizona, which has implemented an e-advice

system to increase retention rates. A counselor is notified when the algorithmic automated tracking notes a range of 'problematic student behavior', such as not completing coursework on time or spending more hours in the gym than in the library (ibid., 238). It is here that we can see how preemptive and predictive strategies of governance merge in student subject formation.

Data correlations on student performance restructure the task of higher education quality management; for it changes what it means to study. Companies such as Abstract Technology, for example, establish architectures to analyze learning experiences (see the open edX platform: AT 2020). These digital architectures aggregate student data from multiple courses and use the resulting analyses to rearrange course material according to the weaknesses of students. In other words, the data is used to optimize the learning environment. As Mau (2019) has argued with respect to big data, the quantification process goes along with a valorization (see also Heintz, 2010). Instead of merely representing the world (a certain student competence), it creates a new reality with hierarchical inequalities (Mau, 2019, 40–59). In the case of student course work this might be the idea of 'committed students' who put in the time recommended for the course they have signed up for. More specifically, the value manifestation is associated with the student's attitude, with an 'active disposition' toward ideal-student-subject-formation. Higher education's adaptation of strategies of 'algorithmic governance' means OSAs might form the entrance point for an entirely new 'digitized study culture'.

One important aspect of student subject formation is that the data constructs a "digital self" or a "statistical artefact" (Bächle, 2016, 194; our transl.) by collecting and evaluating information on their performance (e.g. test results, or general user behavior on learning platforms). Instead of viewing this as 'insight into a black box' – as it is frequently referred to – it is important to acknowledge the constructive dimension of the data with respect to the "digital self". Critical accounts of quantification and of the misconceived idea that data can "speak for themselves" (Kitchin, 2014, 5) or that measurement "provides privileged or exclusive access to the real" (Espeland & Stevens, 2008, 432) by delivering objective knowledge should be borne in mind here. From a posthuman perspective, Goriunova (2019) has pointed out that the digital subject is constructed through matching, correlating and modelling and that digital subjects are produced 'at a distance'. We use the term "digital self" here in order to indicate that the data *are associated* to a particular self by way of subjectification. In other words: The collected data provide an attachment by suggesting that the numbers and indicators can be attributed to the respective individual: "*My* OSA result was …"

Put this way, data do not speak for themselves but rather for the data-delivering subject (Hörtnagl, 2019, 146) as an expression of a measured 'algorithmic identity'. The example of an identity document can be used as an illustration of this translation: the subject becomes visible through its constitutive data (Bächle, 2016, 188). To speak of a constitution also implies a translation – it could be described as an insufficiently complex fragmentation of the subject rendered by processing only the elements needed for the digital modelling of a user's interface or to create profiles (Hartong, 2019, 12).

We can see here Deleuze's dictum, that subjectification is accomplished through modulation: By using learning platforms, OSAs etc. it is possible to collect and automatically analyze data about students' interests, expectations, motivational and cognitive skills as well as to assemble them into a specific 'picture'. Besides the construction of a 'digital self', it also connects modulations of future and risk and, as a consequence, supports the dataveillance constitutive of societies of control: By producing categories and classification of specific pictures – e.g., a label of the soon-to-be-failing-student – it will be possible to tag them with presumption and risk (see also Bächle, 2016, 188) and to counteract their 'failure' preemptively.

What is also relevant when investigating the effects of OSAs is that the data generates a *digital optimum*. As algorithmic rationality is continuously applied to the learning or testing environment, it simultaneously optimizes and normalizes the processes and results of evaluation. With respect to the OSAs, this means that prospective students are confronted with the ideal of a 'perfect start' for their studies. The OSA transmits specific expectations in terms of programs or intramural performances and students are faced with the demand to make this compatible with their own expectations. Students may, for example, find out in the OSA that the lack of a language stay abroad means a poor starting position for studying a foreign language. They will take it as *their* responsibility to compensate for this disadvantage. On the basis of their OSA results, students will start to manage their study portfolio. There is an interpellation of data that calls for risk management and self-optimization.

In sum, digital self and digital optimum form a differential that exerts algorithmic governance (Beer, 2016). This differential shapes student behavior (also in relation to other students) and thus it restructures higher education. In our conclusion we would like to highlight the changes that these developments can bring about for the culture of studying and of higher education in general.

13.5 The Transformation of Higher Education and the Exercise of Critique

In their book "Global Immunity", Jan Masschelein and Maarten Simons (2005) delineated the changes brought about by the creation of the European Space of Higher Education, and pointed toward the role of a "quality tribunal" that makes everyone accountable in the university (see also Masschelein & Simons, 2010b). In this chapter, we have focused on contemporary developments in higher education that fit very much this diagnosis. In the first part of the chapter we demonstrated how competition and competitiveness within higher education is closely linked to the possibility to 'manage' student success. We have also shown that this field of governance is currently being restructured in light of the possibilities afforded by learning analytics and big data. In this context, the instruments of 'study choice check' or OSAs have a prominent role: They are an instrument with which to

identify preemptively problems within the course of study for prospective students. Furthermore, they change the idea of what it means to be a 'good' or 'promising' student.

The techno-social imaginary of a perfect learning environment is connected to a strong individualization of higher education. In this regard, our analysis confirms what Masschelein and Simons have labeled a "trajectory of learning" for every individual, where everyone is on their own path of learning (Masschelein & Simons, 2010a, 669). We have placed a strong emphasis on the subjectifying effects of performance data collection, i.e., the call for optimization addressed towards students in the form of permanent progress assessment, which also concerns the study programs and the responsible academic departments. The competitiveness and the geopolitical advantage of a university will depend strongly on the possibility to manage student success appropriately.

This vision of the perfect governance of learning comes with constraints and reductions, however. We follow Kitchin in his diagnosis that subjects and data are "always in a state of becoming"; they are "uncertain, provisional and messy fragile" (Kitchin, 2017, 18). The current approaches lack the fundamental idea within (higher) education that education and *Bildung* are related to an open and unpredictable future; they go beyond the correlations of data (see Jornitz and Klinge, Chap. 14, in this volume). The logic of representation in the relation of subject and data, and the idea of predictability, undermines this potentiality. The students' future is reduced to their 'predicted future'. It is this vision of study success based on personalizing the learning experience that we have to interpret as "algorithmic governmentality's boundless strength" (Berns, 2018, 256).

Universities are places where academic communities construct knowledge and perform deliberation, and these practices are dependent on a common space in which the members of the university can engage with each other. What happens if everyone simply moves in one's own learning environment? We suspect that the openness of academic exchange will diminish when study success becomes a matter of prediction and aggregated probabilities, for there will be nothing really to expect from engagement with others. When moving along a learning trajectory one is concerned only with one's own path of optimization.

In our view this will limit tremendously the scope of higher education, which has to include those more troublesome aspects of study experience that digital technology seeks to mitigate against. The delays in reading and writing, e.g., can be seen as a barrier as well as a *resource*: when a question is not yet ready to be asked, this might not be a failure of achievement. Higher education also requires a critical engagement with the academic discipline: Students become professionals in and through taking a stance toward the knowledge they are confronted with. In other words, higher education is about partaking in the reflective evaluation of what is presented *as* knowledge. It is critique that is at stake here and that has been valued in critical traditions from Kant to the Frankfurt School to Foucault. The exercise of critique is a crucial knowledge practice within the course of study that reopens what is there to think and to explore.

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Chapter 14
"Bildung" as a Forgotten Aspect of Algorithmic Technologies

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14.1 Introduction

As part of the "Global Educational Industry" (GEI), developers, coders, and designers of digital technologies such as hardware, software and learning platforms have a significant influence on the understanding of education and learning (Parreira do Amaral et al., 2019). GEI is described as "central to the transformation of education from a modern to a late modern institution" (Amos, 2019, p. 226). This concerns "the capitalization of the educational sector on a global scale" (Thompson & Parreira do Amaral, 2019, p. 3), mobilized partly by the so-called disruptive innovation of digital technologies and data infrastructures.

By introducing "proprietorial" digital technologies and data science to formal and informal education, technology enterprises concentrate "the means for the production of knowledge in their own hands" (Williamson, 2017, p. 118). Dieter et al. (2019) call this predominance of certain businesses "Silicon Valley imperialism" (p. 12). Digital technologies, such as learning analytics (Allert et al., 2018), apps (Decuypere, 2019) or learning software, are not pedagogically neutral but hold assumptions about the subject and they stage learning in a certain way: through *algorithmic* information processing, knowledge construction and educational practices are visualized in particular ways.

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Our contribution focuses on this kind of educational framing by learning software for schools and its implications for understanding teaching and learning practices. From this perspective, the fundamental concept of education as "Bildung" comes into sight. We explore this theoretically by discussing first how sense-making within algorithmic systems can be described; second, we explore how meaning is staged for and with the user through visualization and gamification; and third, we discuss terms used in the theory of education and specifically "Bildung". Against that background, we will draw on specific examples of learning software used in the school context, focusing the way knowledge is assessed, how the reward system is constructed and how performance is visualized. Finally, we discuss aspects of the algorithmic framing of pedagogy in terms of their lack of opportunities for sense-making and "Bildung" and what this means for human sense-making in general in the field of education.

14.2 Algorithmic Sense-Making in the Context of Knowledge Construction

Digital technologies are data-based, which means that they *need* data and a data infrastructure to process and produce information. This applies to all programs regardless of their complexity, from simple algorithmic software programs to highly complex applications for machine learning. In that sense, only sequenced, abstract – digital – data is of use in computer technology, and in consequence analog information has to be digitized, for example via analog-to-digital converters or by prompting users to enter information manually (Berry, 2011). Within digital computing technology, programs are built around algorithms that define how data is collected and processed and how the results are presented. Accordingly, algorithms are a guide to how any input can be transformed into a desired output (Stalder, 2016, p. 167).

Therefore, data is neither "just there" nor does it mean anything by itself. Digital data are the result of translation processes of the analog world, while algorithms – as codes – are mechanisms to handle the data: "As such, code is operative and produces a result [...] often in an iterative process of loops and conditionals" (Berry, 2011, p. 52). Even self-learning systems (e.g. artificial intelligence, machine learning) need to be told how and what to learn: Algorithms are needed to access, select, process, interpret and present data for particular purposes.

To interlink "the analog" and "the digital", certain ways of structuring and classifying information are necessary. Since the 1970s computer technology development and design practice have worked on designing technology that is user-friendly, ergonomic, convenient and seamless by researching and configuring human behavior itself (Suchman, 1985; Wiener, 1950; Woolgar, 1990). Hence, design and technical functionality means that human-computer interaction has become almost seamlessly integrated into our daily practices.

We want to take one step back, and point out the conditions that enable this intertwining of human and digital technological practices. Humans become detectable for digital technologies via stimulus-response relationships and their behavior, whereby non-observable dimensions, such as thinking and experiencing or feeling, have to be (momentarily) neglected. It must be noted that non-observable dimensions such as feelings or well-being are also made computable or machine-readable, for example, via face tracking; so it has to be transferred into a dimension, which is traceable. Despite these sophisticated tracking practices and the complex information produced by big data computation and machine learning, all algorithmic programs follow unambiguous schematic operational steps. All those data processing practices refer to objects that, via digitization, are independent of the materiality of the analog objects (Krämer, 1988, pp. 159–160). Hence, an individual step has to be measured via sensors and collected and transformed within computer technology into binary data in the same way as student answers to a test. Within algorithmic programs, all binary data are handled as the same kind of information. Different content or its mediality, such as images, text, and sound, are transported, processed, and stored as data in the same way (Manovich, 2013, p. 133). Therefore, information *is* rendered as a non-specific “thing” in order to have the same meaning in every context (Buckland, 1991).

Genealogically speaking, understanding information in this rationalistic sense, and the receding of a didactic sense, can be dated to the rise of information theory in the industrialized world. It intensified after the Second World War with cybernetics as a theory of communication with the idea of controlling man, machine and processes. Since then, information has had to be transferable between humans and machines as much as between machines only. This is why information needs to be “comprehensible” on both sides (Kübler, 2009). Information therefore has to be, so to speak, ‘meaningless’, for an information transfer model that addresses humans and machines in the same way. The cybernetic model went so far as to construct learning for humans and machines in a circuit system via *regulation* of information: Data is received, stored and compared (with former data), chosen and externalized (Wiener, 1972, p. 114). One way of pre-sorting the world and the human being, in order to be able to predict and interpret human behavior, is to make it measurable through quantification. This creation of measurable constructs through quantification appears to be a necessary condition for the already discussed fragmentation and digitization of knowledge to produce supposedly unambiguous content. It also creates certain conditions for dealing with knowledge; among other things, it makes it possible to render action quantifiable by technology. There are two sides of quantification in and through software: one related to input and one related to output. On the input side, data is quantified via sensor-technology, data collection, data abstraction, and data adjustment – here, it is necessary to decide which data has to be digitized in what way. On the output side the interpreted data has to be staged and communicated as quantified and/or visualized and verbalized in relation to the user. Quantified outputs (such as ‘You walked 3,700 steps today’, ‘You solved 80% of the assignment’) are based on technical functions mentioned above, but also convey a certain kind of value. Both input and output algorithmic data processing can be

described partly as a practice of the quantitative interpretation of the world in order to grasp and understand it through software.

Quantification as a *social* technology has a long tradition that "pushes the value of accuracy forward" and "increases confidence in the reliability, objectivity and safety of actions and the objects and technical devices they produce" (Hörning, 2001, p. 126, translated by DK). Although quantification suggests objectivity, comparability is not inherent in the objects but rather is a product of many decisions and standardization efforts (Heintz, 2010, p. 169). In the field of pedagogy, for example, the practices of quantification, comparison and measuring produce and change simultaneously what is measured (Manhart, 2016). For instance, school grades always imply pedagogical feedback. Poor grades could encourage learners to do better and learn more, discourage unwanted behavior or frustrate students. Conversely, good marks could be received as praise and recognition of hard work or they could invite students to sit back and relax. Either way, pedagogical measurement and quantification always has an impact.

To produce output and, therefore, information to keep the algorithmic system going, algorithms work on two layers: while the data processing code-layer (Application Program Interface or API) is invisible to users, some results of the processing are made visible and manipulable on the graphical user interface (GUI). On that visible layer, the users have to feel they are being referred to and can make sense of what is offered.

The construction of *meaning* also takes place in algorithmic systems on different levels. First, the social-discursive knowledge of the corresponding developers' milieu is inscribed (Klinge, 2018). Since the programming of algorithms and the design of computer technology are "modelled on visions of the social world" (Beer, 2016, p. 4), they are always documents of anthropological understandings and reflect contemporary values (Seaver, 2018). Developing digital technologies entails a process of constructing the social, because "by setting parameters for the user's actions, the evolving machine effectively attempts to configure the user" (Woolgar, 1990, p. 61). Second, however, the user creates meaning on the basis of information produced by the digital technology in various contexts, coming to understand aspects of the world *through* digital systems. Thus, it can be argued that algorithmic systems also change human ways of constructing meaning.

Both levels of meaning construction are mediated by algorithmic functionality (Klinge, 2020). Instant feedback on human actions is needed to maintain the users' interaction with the program, but also its reliability and continuity seems to act as a "buffer zone against the uncertainties and worries of their world" (Schüll, 2014, p. 13). Rouvroy (2013) describes this way of meaning construction as "data behaviorism":

> The 'real time operationality' of devices functioning on such algorithmic logic saves human actors the burden and responsibility to transcribe, interpret and evaluate the events of the world. It saves them the meaning-making processes of transcription or representation, institutionalization, convention and symbolization (p. 143).

In this kind of knowledge there is no linearity of time from past into future, just synchrony (Esposito, 2013, p. 132).

Knowledge thus appears to be always available and retrievable, but not in the sense of a necessary acquisition in terms of learning or “Bildung”. In contrast to educational theories about cognition and acquisition, it can be said that the algorithmic construction of knowledge seems diametrically opposed to the concept of knowledge in education and educational sciences, which describes knowledge as a subjective construction of meaning and the acquisition of content, abilities and skills, which necessarily takes time. Communication, with its different layers of meaning, seems then to carry an essential dimension of knowledge, which includes reflection, criticism, responsibility, and ethics. From an epistemic point of view, digital technologies and their algorithmic program both inscribe and produce a certain kind of knowledge. They produce certain spheres of experience. From an educational science point of view, this raises the question how digital data as bits of sequenced information can be transferred into complex knowledge, and how learning is staged. From this perspective, we will see later how the feedback tools and reward systems of learning platforms are a quantified digital version of physical social interactions between the teacher and students.

14.3 Visualization and Gamification to Provoke Interaction

To maintain the algorithmic functionality, the technology needs data to process. Through the Graphical User Interface (GUI) visible affordances of the system can engage the user to interact with the system and gain data, which is then processed by the hidden affordances of the API or ‘black box’, invisible to the user (Berry, 2011, pp. 15–16). This division of code and interface was not present in early software development, when users had to operate the system via graphical elements as well as via code writing (Manovich, 2013, p. 98). The operation of computer technologies has changed fundamentally: most users are unable, and have no need, to control anything via code, and visual design has become the essential intersection of human-computer interaction. Interaction is possible by means of touch, swipe and prompt to enter information through the graphical user interface. This human-computer interaction involves signs, gestures, writing and reading, speaking and listening, showing and following, touching and triggering in symbolic framings where iconography directs the activities (Rammert, 2010, p. 49). To call someone via smartphone, you only need to touch the icon of a telephone and choose a name from your list. If you want to listen to music, you can tell Amazon’s Alexa, Apple’s Siri or Google’s Assistant which song you want to listen to. If you are learning Spanish with an app, you touch pictures to answer the questions, for example. The design compatibility for smaller surfaces such as mobile phones demands a more minimalist layout on the one hand, and addresses the users as “playfellows” in a colorful trivialized version on the other hand (Bunz, 2015, p. 194).

Many of the elements intended to provoke and maintain users' interactions are designed according to the principles of "gamification" (Zichermann & Cunningham, 2011). According to the technology industry, game elements should motivate users and make use of technology fun but also regulate human behavior:

> To further engage our audiences, we need to consider reward structures, positive reinforcement, and subtle feedback loops alongside mechanisms such as scores, badges, levels, challenges, and leaderboards. When done well, gamification helps align our interests with the intrinsic motivations of our players, amplified with the mechanics and rewards that make them come in, bring friends, and keep coming back. Only by carefully unpacking consumer emotions and desires can we design something that really sticks – and only through the power of gamification can we make that experience predictable, repeatable, and financially rewarding (Zichermann & Cunningham, 2011, pp. ix–x).

This quote from one of the more influential books on gamification in web and app design shows quite clearly the spirit of hope for designers and overall tech-industries that gamification can open up a new gold mine by subtly but significantly influencing and predicting human behavior. Feedback design uses badges, stars, points, diamonds, or abstract tokens to reward, motivate, and take the user to a desirable goal *inherent in the program*. The introduction of game elements to non-game contexts, such as education, organizations or the home environment by social media entrepreneurs and marketing experts, puts into practice the aim to efficiently regulate behavior via positive feedback (Fuchs et al., 2014).

The introduction of this principle to educational contexts bears significant problems for learning processes. Put simply, learning by points, stars and badges doesn't support an understanding of content and acquisition of deep knowledge, but teaches how you can earn more stars through particular behaviors:

> Insight is no longer relevant if all that is tracked and regulated is behavior. The age of reason finally comes to an end. This, however, could profoundly transform our understanding of a democratic and free society. […] Individual insight promised a change in behavior and thus the potential for change in society. Now it seems that people do not have to be illuminated but simply regulated by points and badges in order to make them fitter, happier, and more productive (Schrape, 2014, p. 43).

The design of technology that is intended to be comfortable and intuitive to use, and the implementation of gamification tools, suggest that the design is informed by the aim to incorporate or automate human behavior. Developers even explicitly draw on the psychological theory of operant conditioning for the construction of their products, as Schüll (2014, pp. 147–154) pointed out in her study on slot machines. Those who have worked for Silicon Valley companies, such as Tristan Harris, who worked for Google, have spoken out about how tech companies have exactly this targeting of automated behavior in mind.[1] The user of such technologies "delves into the physical unconscious through processes of habitualization and normalization" (Kaerlein, 2018, p. 263, translated by DK). In that framing, the learner and their behavior are understood as a trivial machine working by reflex

[1] https://www.humanetech.com/who-we-are#our-story

mechanisms (Meyer-Drawe, 2005, p. 51), whereby algorithmic feedback loops can be conceptualized as learning processes.

This is not to suggest that these design elements within educational technologies are always intended to turn humans into – in exaggerated terms – Pavlovian dogs, as we will show in the second part. Nevertheless, the original idea of implementing gamification and optimizing tools rose from a hope within the industry to significantly influence and predict human behavior, to increase data and thereby financial gains by keeping users logged into platforms. We will outline below what this means for educational settings.

14.4 Algorithmic Systems and “Bildung”

Algorithmic systems have changed the relationship between knowledge, learning, and education in the narrower sense of “Bildung”. Nordenbo characterizes Bildung as “the standard German understanding of the concept as an educational idea, a person has acquired Bildung only if he or she has assisted actively in its formation or development. In other words, in the educational context, the concept of Bildung contains a reference to an active core in the person who is gebildet” (Nordenbo, 2002, S. 341). In opposition to this idea of individual educational development, technical systems address all human beings throughout all generations and lifespans – from school children to adults and into old age – in the same way. There is no room to address the particular pedagogical values and needs of different stages of development, life courses and biographies. By implementing digital software in the education process, former routines are challenged and changed. In most cases, they accelerate a process that characterizes the general school system: The need to equip students with the necessary certificates for the labor market often narrows the time available to strengthen a pedagogical process of understanding. It is not uncommon to rush through the curriculum in view of the assessment of performance. Digital systems of education intensify this process in ways that have an impact on the relation between teacher and students. It is no longer the human being who is responsible for guiding the teaching process, but a technical system that, in general, cannot be adapted by the teacher.

Most algorithmic systems, for example, work with temporal immediacy; the systems answer immediately, but also provoke immediate user reactions. This stands in contrast to our understanding of learning and “Bildung”, a process that takes time. The systems require children and adolescents to react as fast as the digital system does and thereby give the students less time to reflect on the questions or tasks presented by the software. In the following, we will exemplify how these problematic aspects and structures of algorithmic logics are implemented and designed within learning tools, and how they move educational routines away from learning and “Bildung”. From a long-term perspective, digital systems are, more than ever, pushing the next generation in a direction of becoming functional, compliant participants

and users of the algorithmic systems designed by and for the GEI. The increase in the use of such systems in schools means an increased adaptation of students to such systems and the ways of learning they require. Students are trained to react as fast as possible by being asked for immediate answers. For such systems, thinking is just an interfering variable because it takes time. For an education process guided by pedagogy, however, thinking is the central action that should be cultivated in school. When focusing on the school context, and more precisely on teaching and instruction processes on the one hand and on learning processes on the other hand, it is necessary to step back and elaborate the theoretical assumptions made about these processes. Such assumptions will help us to identify where and how digital tools and their algorithmic structures intervene and modify teaching and learning processes in classrooms. By doing so, the concept of "Bildung" – a widespread term in the German (and European) discourse that has been in use for 200 years – will serve as a tool to criticize the limitations and restrictions of algorithmically shaped learning platforms.

14.5 A Theory of Teaching as Critique of Digital Learning Tools

In the German discourse on learning, the theory of teaching plays a central role that has become increasingly recognized in the European and international context (Uljens & Ylimaki, 2017). Teaching is understood as a complex system of actions that consists of "Bildung", education ("Erziehung") and didactics (Gruschka, 2009, 2013, 2019). All three aspects are interwoven in the action of teaching. Gruschka calls it "an integrated case of constellation" (Gruschka, 2019, p. 680).[2] "Bildung" is the reason for and target of teaching. It "deals with all the problems of understanding which emerge from the content of the lesson" (Gruschka, 2019, p. 675). Education is not only necessary for the overall development of the child and adolescent. In the school context, the teacher's task is to help students to orient themselves towards the target of "Bildung". Didactics refers to the way in which the teacher arranges both the target of "Bildung" in terms of the school topic or school subject and the educating aspect that helps the student to focus. Didactics includes decisions about "which part of the knowledge has to be presented" at what point in time and to what amount (Gruschka, 2019, p. 676).

"Bildung" is the central category in the theory of teaching (Horlacher, 2004), but it does not refer only to the product of a successful teaching and learning process. "Bildung" differs from formation or training and is still tied to the classical 19th

[2] Gruschka refers to Theodor W. Adornos term of "constellation" as a theoretical concept to highlight the interwoven structure of the term and its non-identical, cf. Adorno, 1997.

century definition offered by Wilhelm von Humboldt.[3] Humboldt defined "Bildung" as the "most independent interaction (interdependency) between the individual and the world" (Humboldt, 1956/1793, p. 29; translated by SJ). This interplay involves how one deals with the world and its objects as well as how one expresses oneself in, constructs and forms the world. In this sense, "Bildung" refers to the possibility as much as the need of the individual to understand and to put the necessary effort into the process of understanding. This relation is a fundamental process of self-formation that needs to be guided and supervised by teachers as we hold onto the idea of effectiveness to instruct or train groups of students by one teacher. "Bildung" is seen as any act or experience that has a formative effect on the mind, character, or physical ability of an individual. Given a close relation to the school context, it is an instrument by which individuals become autonomous, emancipated from societal – and historically developed – structures by designing and refiguring them. The individual learns to understand these structures and his or her own involvement in them. School is linked to this task by supporting the student to become familiar with and to question and reflect on them. In the long term, this process should lead to the possibility of developing society as a whole and changing society for the good of everyone. From this perspective, "Bildung" is understood as an "endless task of developing, unfolding, and enlightening the human mind and making real the independence of human will and action from natural and social determinations, coercion, and constraints" (Masschelein & Ricken, 2010, p. 127). School is therefore the central institution of a society and a nation state for the development of the individual, society, and nation. "Bildung" is not oriented to the student as a learner only, but to the student as a human being and future citizen (cf. Jornitz & Timm, 2021). Hence, the "concept of Bildung always contains an understanding of what is human (an understanding of humanity) and how we can attain this. It always implies an idea of humanity and a knowledge and representation of that which is unsatisfactory or insufficient" (Masschelein & Ricken, 2010, p. 131).

In this respect, the critical discourse on data in education must be extended to the core of education itself: to "Bildung", sense-making and understanding as the leading principles and targets of every education process.

14.6 The Misconnection of Digital Tools with "Bildung"

Given the centrality of "Bildung" for a theory of teaching, it makes sense to ask how each didactic tool contributes to this process. In the following, we will exemplify how the digital transformation of teaching materials changes not only the teaching process and the relation between teacher and students, but also in what respect the target of "Bildung" itself is changed and transformed by these algorithmic

[3] For the development of the term *Bildung* in Germany and Europe and its relation to theological as much as aesthetic debates, see Horlacher, 2004 and 2011. As an example for the German discussion see Rittelmeyer, 2012.

structures. Most of the digital tools in the German and the global market are coded for specific learning tasks, e.g. for training reading or math skills (Jornitz, 2015). These tasks are grouped into series that are relevant for the content of a specific school subject. Students have to click on a task, choose the right answer from a number of given answers or type the results into a defined space. Upon pressing a button, the software tool decides immediately if the answer is right or wrong. The next step depends on the structure of the program. Ultimately, the idea underlying most of the learning programs is to guide students through a one-way-street from one task to another. Every series of tasks ends with a summarized evaluation of the students' answers, before the next series appears on the screen. These tasks could mean another series of the same, or different ones at a higher or lower level depending on the earlier performance. In a coded learning tool of sufficient complexity, this structure of tasks and evaluated answers could be endless.

In the structure described above, the idea of a learning process is pre-designed by the developers of the learning tool. As outlined before, such a digital structure defines the student as a simple machine that is willing to move from one task to another, motivated only by collecting the coins, stars or points rewarded by the computer system. We could say that the idea of Bildung, as a process that supports the student to a better understanding of a certain aspect of life, is in such digital systems reduced to work on tasks. But the delivery of such tasks can be justified only if they provide a necessary piece in the process of constructing understanding. We argue in the following that systematic elements of most of these education tools present significant obstacles to the process of Bildung.

To illustrate more precisely how the topic of "Bildung" is addressed - or better, neglected - with these learning tools, we want to focus on three aspects: 1. immediate response, 2. reward systems, and 3. performance representation via dashboards.

14.6.1 Immediate Responses in Learning Software

Learning software offers the advantage of providing an immediate response on whether a students' answer is right or wrong. Working with paper and pencil and individual exercise books, such prompt response and feedback is not possible. Often the answers are not available to the students until the teacher delivers them to the whole class. In terms of the outlined teaching theory, such a feedback process is framed by the norms of the social relations between the teacher and the class. Students have learned that they need to wait until the answers are given to the whole class and that they have to compare the given answers with their own answers in their exercise book afterwards. They may need to reflect on the answer and why it is right or wrong. This creates an in-between phase that could be pedagogically used as a time for reflection. Didactically it means that the situation of solving the given tasks and evaluating them has to be designed. The time lag between the two phases means they are disconnected and must be re-connected by the teacher's didactic

effort. At this moment, “Bildung” could happen if a student realizes something fundamental about the content involved in the tasks.

Yet, most teachers and students experience this time lag as unsatisfying. The student wishes to know if their solution is right or wrong and continue with the next task. Teachers cannot be aware of all individual mistakes and have to focus on explaining the correct solution. In most lessons, the time lag is created as a pause, rather than the chance to think about the content of the task. It is easy for the digital tool to fill the gap, therefore, with its algorithmically given immediate feedback. The construction of the evaluation process is pedagogically different.

To give a simple example, we refer to a famous reading comprehension platform in Germany called Antolin (Jornitz & Leser, 2018). The core idea is to distribute multiple-choice questions about a book to students. When an answer is chosen, the feedback is given in the following way (Fig. 14.1).

The bottom line of the screen in green indicates a correct answer; if the answer is incorrect this element is colored red. We also see a tick and the German word for “correct” (“RICHTIG”), i.e. two more elements that confirm the correctness of the answer. Consequently, the student is rewarded six points (“6 Punkte”). The design of this reading comprehension software focuses attention on the bottom line but not necessarily on the answer itself. The design does not reveal why the student chose the correct or incorrect answer, or why and in what sense the answer is correct. The content of the book, the storyline itself and, moreover, the reading competencies become a marginal focus. The didactic form of the quiz in the digital version focuses on the right and wrong only – no matter what it means. In the example, the framing of fictional content as being right and wrong gives the impression that it is a hard fact to learn that “Niklas is the most successful girls’ enchanter in Scandinavia”

Fig. 14.1 Quiz on the book “Niklas liebt doch nicht jeden”. (Source: Test quiz taken from the Antolin website: https://antolin.westermann.de/)

(and not a "bogey thrower" or "school newspaper editor"). The fact that the fictional content is a means to train reading competencies becomes obsolete. The immediacy of the answer urges the student to take the evaluation as a given fact and click to the next task. The program invokes a speed that entices the students to fast decision making but hinders proper reflection on the task and its question. Software tools that are coded in the manner of this example reduce the possibility of "Bildung" to the evaluation feedback itself. Students are trained to make decisions rapidly without reflecting on right or wrong answers. Didactically speaking, the content of the book becomes incidental, and therefore the room for "Bildung" in relation to the piece of literature diminishes.

14.6.2 Reward Systems as Replacements of (Pedagogical) Grading

Feedback is an essential aspect of learning software, but it is obviously not sufficient in itself. Most of the products accredit results in terms of points, coins or stars that create a specific reward system. Whereas in the school context grades and marks are the typical currency, coins and points are more akin to the gaming industry and its products. Students' leisure time experience with such reward systems might be a motivation for the software engineers of learning tools to use these familiar elements. However, while such a system might be helpful in leisure activities, in the school context it competes with the topic of the lesson or the topic of the digital software sequence.

A screenshot of the German product for mathematics learning, *bettermarks,* illustrates an example that is also developed for the international market (Fig. 14.2).

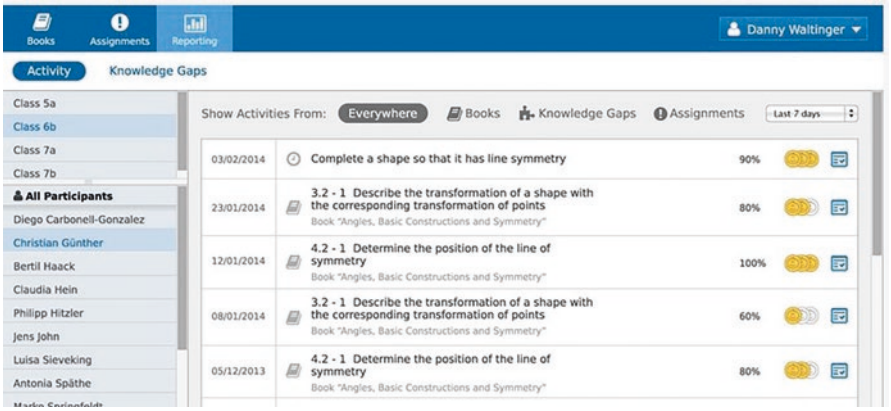

Fig. 14.2 Overview of activities in bettermarks; screenshot from the website. (Source: Website of bettermarks: https://bettermarks.com/how-it-works/ [November 2020])

The overview of activities (see Fig. 14.2) is not only listed by topics and dates, but also shows coins and stars achieved in the column on the right, which symbolizes how successfully the student has performed on his or her tasks. The yellow color and the size of the symbols draw attention more readily than the percentage figure given. The percentage on the right, however, is another new metric that enters the classrooms and is the visual expression of quantification processes that characterize algorithmic systems, as outlined above. Sometimes this list is complemented by points, which are more in line with common teacher feedback, but often the learning software pre-defines the number of points available for a certain task and cannot be modified by the teacher. The whole system of evaluation, feedback and reward, therefore, is taken over by the software. A new “currency” is thereby introduced to the school context, one that is structured according to software games, not as pedagogical feedback from which to analyze mistakes, help to overcome misunderstanding or strengthen the knowledge and understanding of the content or subject. As these metrics are used by every digital tool or website, how we teach will be changed fundamentally. Holding onto the established form of school grading is nearly impossible if the core of instruction is replaced by solving tasks that are distributed by digital learning platforms. This metric will at the same time change the object or content itself. Its value will be quantified and measured but not situated in relation to understanding its importance for life or the development of society.

From the perspective of teaching theory, such a reward system eliminates the content and ties the student’s self-understanding as much as possible to the system and the distributed metrical data. The inner logic of the software needs a student who wants to get as many coins and stars as possible: within games that is part of the fun, but within the school context it negates the aspect of “Bildung”, because the reason why the student got his or her reward is marginalized. The reward symbols mask what topics the student has understood or what abilities or competences he or she has acquired. The student is constructed as a simple machine dependent on the stimulus to show a certain response. Education is limited to the motivation to focus on the next series of tasks the software provides. Consequently, the inner logic of a specific aspect of learning content disappears. It is deconstructed into single tasks that are then hard to reassemble in connection to each other again.

14.6.3 Performance Representation via Dashboards

Most digital learning platforms or instruments present their data via a so-called dashboard, an easy to understand visualization of key data. Rather than users running their own calculations, the task is given to the algorithm underlying the data mining systems (Williamson, 2016). Therefore, it is not the user of the software system who determines the algorithm by which data are processed and calculated. Teachers, students and parents can ultimately only work via the dashboard presentations. In most cases, attention is guided via recognizable color cues ranging, e.g. red = worst, green = best. A study about health measurements showed that participants

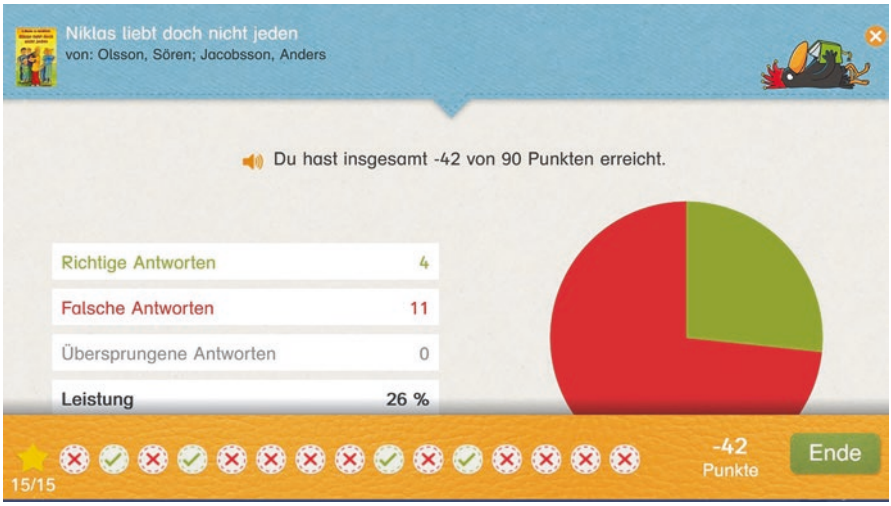

Fig. 14.3 Presentation of the Quiz result. (Source: Test quiz taken from the Antolin website: https://antolin.westermann.de/)

attached a far greater importance to the visualizations than to the oral contextualization of a measurement expert: their measurement output visualized in red (within green to yellow to red colour schemes) caused some of them weeks of distress, in spite of the framing and relativization of the results by the measurement expert (Klinge et al., 2020).

Decision-making processes are thus pre-empted by the symbolism of the color. A simple example is taken again from the German reading competence platform, Antolin (Fig. 14.3).

The visual presentation of the quiz result (see Fig. 14.3) shows colors, a diagram, the number of right and wrong answers and the percentage of a so-called "performance" (in German: "Leistung"). Without delving deeply into an analysis of the result itself, the presentation is constructed as intuitively understandable. The red elements in this example are bigger than the green ones, the red numbers are higher than the green ones – that is enough for a rapid evaluation of the student's performance. Because of Antolin's simple structure the numbers can be easily connected to the number of quiz questions, but the percentage measurement of achievement doesn't directly correlate with it. While the percentage itself is compared to 100% and is easily interpretable, i.e. a low number reflects low performance, how the percentage has been calculated is not clear. The visual presentation of the performance conceals the underlying logic. Students as well as teachers become conditioned to such performance visualization. Regardless of the metrics or the means of calculation, the message is that performance should be 100% in a totally green

circle.[4] In such diagrams, the content underlying “Bildung” disappears again; the software instruments ideally prepare the user for any task that appears next on the screen. Children are not prepared to query, but to respond.

14.7 The Trias of Sense Making, “Bildung” and Education Technology Within a Geopolitics of Knowledge

Digital technologies are not neutral: the programming of algorithms and the design of computer technology always reflect models of the social world, certain practices and anthropological ideas (Jornitz & Engel, 2021; Wilmers & Jornitz, 2021). Discourses of quantification and optimization of education have encouraged certain technological developments and implementations of digital technologies in educational settings. The “imaginary” of education and data processing practices view learning “as quantifiable, measurable, actionable, and therefore optimizable” (Williamson, 2017, p. 120).

In turn, educational practices with and within digital tools will influence human meaning construction and social structures. The expectations of instant feedback and rewards for right answers provided by the real-time operationality of algorithmic data processing will accompany how students learn content and how they learn what education is (and how they are taught). Gamification tools will likewise change the framing of education and competition and determine the educational potential of *games* as spheres of pretending and trying out different scenarios.

The use of digital instruments in schools is often linked to a hope for more individualized teaching practices. Selwyn points out that “digital technologies are seen as enhancing student’s control over the nature and form of what they do, as well as where, when and how they do it” (Selwyn, 2011, p. 16). In consequence a teacher’s role would mean assisting the student in task management. Such digital learning systems also reveal that they model and process school curriculum topics in rather simple ways. Students are trained by multiple-choice formats rather than being educated in critical reflection and understanding of reasoning (Rittelmeyer, 2018). Moreover, digital instruments seldom serve to personalize and individualize in an authentic manner. Students are grouped according to their level of knowledge (low, medium, high) and provided with respective tasks from an integrated database of the platform or app. It is an open question whether this procedure makes students remain at a certain level of knowledge or if such a tool assists them in reaching a higher level. It has been argued that the use of digital technology within learning

[4] Figure 14.3 shows that the two metrics do not correspond; they are contradictory and mathematically at least irritating: while the number of points is negative (here: minus 42), the measured performance (“Leistung”) is stated as 26% – but it is mathematically not possible to get a positive result based on negative numbers. The two systems, to add negative points for wrong answers on the one hand, and to add the (positive) points for right answers and transfer them into a performance-percentage on the other, do not build a coherent system.

processes with their characteristics of quantification, simplification and stimulus-response design do not facilitate individual development.

The idea of "Bildung" entails that learning processes need time and room for ambiguity. Education in this sense is not only about knowledge transfer but also oriented to the student as a human being and future citizen and also to questions about the good life. If we follow Masschelein and Ricken (2010), we understand "Bildung" as " (1) the formation of the self in relation to itself […]; (2) the formation of the social, that is, as a particular formation of the self in relation to others […]; (3) being in relation to the world" (p. 130). Against this background, digital tools, first, frame the relation to oneself in terms of 'earned' points and coins. The personal achievement in school is evaluated by an algorithmic-based machine rather than by a responsible teacher. Second, the self in relation to others is constructed via competition within an abstract reward system and without communication 'between the lines'. This competition is not linked to understanding or sense-making of certain subjects, but to the pure contrast of one against the other. And third, by adapting students to such systems, it seems that the world in this teaching setting gives immediate answers about right and wrong in color schemes of green and red. In such a setting, the truth is always immediately at hand, and in the hands of those who design and code the programmes.

Such a technological system for learning can be distributed throughout the world, no matter of country or school culture. These digital technologies are built around a global economic concept and transport a fusion of market-logics, algorithmic functionality and Ed-Tech narratives that promote the idea that learning is actively driven by technology (Mertala, 2020). The emergence of a global education industry and for-profit actors promoting these tools within the educational sector not only change students' perspectives on the education and teaching process but also that of teachers and schools. These kinds of market-driven technical developments will shape our picture of future schooling fundamentally. We do have different school systems and different kinds of learning materials. Widespread standardization of practices – like the OECD's programme "PISA for Schools" – lead to worldwide processes in which students will learn with the same materials and programmes. The didactical procedures as much as the types of tasks presented in digital learning platforms as part of a digital geopolitics of knowledge will deny differences in cultures and curricula. Digital technologies have the power to streamline pedagogical settings worldwide.

While this offers a chance to enable communication and build networks between actors in different educational systems, as social relations are not defined through belonging (Hall, 2017) but through integration and disintegration within a network (Wittel, 2001, p. 51), programs such as the OECD's Programme for International Student Assessment (PISA) cannot rely on the national curricula for its items so far, but if certain educational technology tools are implemented in the classrooms, they standardize what and how it is taught worldwide – and makes assessments easier in the future to measure student's performances in the classrooms.

As researchers we do have a duty to think about such a global alignment of educational teaching processes.

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Chapter 15
Subjects and Subjectivities of the (New) Geopolitics of Knowledge

Jozef Zelinka

15.1 Introduction

Researchers across educational disciplines agree that there has been a continuous neoliberalisation and industrialisation of education. Higher Education (HE) in particular has largely become an enterprise, in which universities, educational institutes and research centres compete with each other (Hazelkorn, 2017; Erkkilä & Piironen, 2018), develop novel business models for education (Kehm & Lanzendorf, 2005; Maasen & Weingart, 2006; Hartmann, 2019), continuously innovate their research and teaching (Wildavsky et al., 2011; Bui et al., 2019), and strive for excellence and global leadership (Welfens & Walther-Klaus, 2008; Altbach & Salmi, 2011; Münch, 2014). Apart from the economic and historical reasons of this development, the fact remains that education is being transformed, setting economic growth and increased productivity as its main goal (Spring, 2015).

This global transformation of education has been studied both as an epistemic shift as well as a geopolitical game (Robertson et al., 2016; Moisio, 2018; Reiter, 2018; Parreira do Amaral et al., 2019), leading some theorists to conceptualise it as a (new) Geopolitics of Knowledge (GoK) (Mignolo, 2002).[1] The global transformation of knowledge production, however, affects other social institutions, including family, work, and health, too: the more educated the population, the better the access

[1] Using the term *new* indicates the new wave of geopolitical change in global education, while the brackets remind the reader that geopolitical changes as such have always permeated and influenced educational processes worldwide.

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to higher-paying jobs, and, thus, the more sustainable and healthy families are. In contrast, poor education limits the possibilities of better jobs, leading to economic instability, family erosion, and health care difficulties (OECD, 2012; Lee, 2015; Geruso & Royer, 2018). Finally, one important aspect of the (new) GoK is its embeddedness in neoliberalism as a rationality that structures the ways in which relations among and between peoples and things are reimagined, reinterpreted and reassembled to effect governing at a distance (Ward & England, 2007 cit. by Bell & Green, 2016, p. 240). Neoliberal governmentality organises the global transformation of education *at a distance* (Ball, 2010, p. 135 [original emphasis]) and attempts to steer individuals by creating desirable forms of self-conduct. The individuals in question encompass those directly or indirectly involved in the processes of knowledge production and provision, be they students and teachers, researchers and academic personnel, educational policymakers and policy practitioners. Keeping that in mind, this chapter will explore and analyse the desirable subjectivities of the (new) GoK, i.e. the modes of self-conduct of the individuals, to outline asymmetries, inequalities, and vulnerabilities associated with this development. The chapters leading question is: What kind of subjectivities are being produced and presented as needed and desirable, and what new vulnerabilities emerge as a side-effect? To enquire into this question, the chapter will concentrate on the 21st century skills and competencies discourse (SCD), which presents the key abilities and competencies the future labour force will need for successful participation in the labour market. This discourse operates at a global level and presents an excellent opportunity to observe the processes of transformation of global education.

The chapter is structured as follows. *First*, it conceptualises the analysis of subjectivities and provides working definitions of the two central terms: subjectivity and discourse. *Second*, it presents the 21st century SCD, compiles and discusses various frameworks of key competencies, and identifies its core aspects. *Third*, it provides a fine-grained analysis of three central tension-pairs, within which subjectivities are formed. *Fourth*, it summarizes the results and contextualizes the (new) GoK as a global governmentality.

15.2 Discourse and Subjectivity: Conceptualizing the Analysis

This part provides, *first*, a definition of discourse and its role in shaping the existing opportunity structures of individuals. *Second*, it makes a distinction between subject and subjectivity, to clarify and analytically separate these two terms.

15.2.1 Discourse

An analysis of subjectivities has to be based on a careful definition of what counts as a discourse, to which individuals can be subject. There exists a wide range of theoretical definitions of discourse (e.g. Fairclough & Fairclough, 2012; Angermüller et al., 2014; Wodak & Meyer, 2016), but their common ground is that they acknowledge the discursive nature of social reality and interpret social problems as discursively constructed (Kitsuse & Spector, 1973). Discourses produce knowledge and organize the meaning-making processes in particular contexts. In the context of global education there are various discourses that shape the debate and that have gained global visibility and relevance, most notably the discourses on innovation and inclusion in education (Segercrantz et al., 2016; Dunne, 2009) and the discourse on 21st century skills and competencies (Caro et al., 2018). Here it is important to look at how they frame the possibilities of thought and action—or *structures of opportunity*, as Parreira do Amaral and Dale (2015) term it—and regulate the accessibility of services, positions, and practices in global HE. Along with *institutional* opportunity structures, in the form of school systems, educational policies, working facilities, and research infrastructures, individuals are faced with *discursive* opportunity structures, within which they develop their careers, progress in their life projects, and navigate themselves according to goals and objectives they find meaningful. Analyzing these discourses means to reconstruct their constitution of social problems and decompose how they produce subjectivities.

15.2.2 Subjectivity

The term subjectivity is derived from the word subject. By *subjects* we generally understand individuals—teachers, researchers, students, policymakers, etc.—who act according to their institutionally acknowledged and socially accepted roles, duties, and responsibilities. *Subjectivity*, in turn, describes their expected and desired ways of thinking and acting and, as with any other concept, is seen as an active agent that shapes and is shaped by prevailing social, cultural, and political spaces (Blackman et al., 2008, p. 14). The analysis of subjectivities, therefore, uncovers how existing and new rationalities, discursive practices, and technologies of power shape the self-conduct of subjects, their thinking, acting, and self-understanding. The transformation of subjectivities, thus, refers to the sphere of the political, i.e. to the constant striving for hegemony and domination (Mouffe, 2005). In this respect, mode of subjectivation represents a technology of power that shapes the conduct of individuals and makes them conform to certain ends (Foucault, 1988, p. 18). Against this background, exploring the (new) GoK means to render the power structures and technologies of subjectivation visible and to understand and dismantle their discursive production (DeLeon, 2020). It is important to note that individuals are not automatically subject to any discourse but rather are confronted

with constant attempts to shape their behaviour and decision-making. Also, individuals can be subject to manifold discourses, nourished by various rationales, which is why subjectivities cannot be clearly clustered and framed. Instead, they need to be perceived as a temporal and contingent variation or *intersection* of discursive practices of different origin. Therefore, a critical analysis of subjectivities needs to focus on the processes of discursive construction and embedding of a particular form of self-understanding and self-conduct.

15.3 21st Century Skills and Competencies Discourse—A Critical Companion

Subjectivities always relate to a particular discourse, by which they are produced and to which they respond. This section, therefore, presents and critically assesses one of the leading discourses in global HE—the 21st century skills and competencies discourse (SCD). It does so, *first*, by introducing its context, *second*, by summarizing and discussing the main frameworks that define the desired skills and abilities, and *third*, by elaborating four core aspects of SCD.

In recent years, the debate on the key skills and competencies required by the future labour force has gathered pace. Given the technological developments of the past twenty years and the rising trend of automation and data exchange, known as *industry 4.0*, governments, educators, policymakers, universities, and research centres have sought, with good reason, to adapt to these rapid changes in order to secure social stability and economic growth (Gray, 2016; Horch, 2017). As a result, the 21st century skills and competencies discourse was shaped by related political, economic, educational, and socio-cultural concerns, focused primarily on how to cope with the uncertainty, unpredictability, and instability of the future labour market and society more generally. Within this discourse, actors involved seek to decide on the most important and desirable abilities needed by individuals of the 21st century for a successful transition into the labour market as well as for full civic participation (Ananiadou & Claro, 2009). One of the reasons for focusing on these competencies is that the majority of recent and future job growth in OECD nations has been, and is projected to continue to be, in services and knowledge work occupations, jobs that are thought to require higher levels of these general skills than manual work (Finegold & Notabartolo, 2010, p. 36). Table 15.1 provides an overview of skills and competencies identified as necessary within various prominent frameworks.

The table was compiled using seven international and national frameworks, ordered by date of issue, and structured in clusters and definitions of skills and competencies. As can be observed, the clusters and definitions from various frameworks are very similar and vary only in minor details or differences in terminology. Although they have been developed over a period of more than 15 years, and in countries with varying educational systems, they nonetheless align on major issues, which was also shown in previous studies (Chalkiadaki, 2018).

Table 15.1 Identifying 21st century key skills and competencies

Framework (year of issue)	Clusters	Definition of key skills and competencies
enGauge (2003)[a]	Digital-Age Literacy	Basic, Scientific, Economic, and Technological Literacies Visual and Information Literacies Multicultural Literacy and Global Awareness
	Inventive Thinking	Adaptability, Managing Complexity, and Self-Direction Curiosity, Creativity, and Risk Taking Higher-Order Thinking and Sound Reasoning
	Effective Communication	Teamwork, Collaboration, and Interpersonal Skills Personal, Social, and Civic Responsibility Interactive Communication
	High Productivity	Prioritizing, Planning, and Managing for Results Effective Use of Real-World Tools Ability to Produce Relevant, High-Quality Products
P21 (2009)[b]	Core subjects and 21st century themes	Global Awareness Financial, Economic, Business and Entrepreneurial Literacy Civic Literacy Health Literacy Environmental Literacy
	Learning and innovation skills	Creativity and innovation Critical thinking and problem solving Communication and collaboration
	Information, media and technology skills	Information literacy Media literacy Information, Communications and Technology literacy
	Life and career skills	Flexibility and adaptability Initiative and self-direction Social and cross-cultural skills Productivity and accountability Leadership and responsibility

(continued)

Table 15.1 (continued)

Framework (year of issue)	Clusters	Definition of key skills and competencies
National Research Council (2012)[c]	Cognitive competencies	Cognitive processes and Strategies Knowledge Creativity
	Intrapersonal competencies	Intellectual Openness Work Ethic/Conscientiousness Positive Core Self-Evaluation
	Interpersonal Competencies	Teamwork and Collaboration Leadership
ATCS (2012)[d]	Ways of thinking	Creativity and innovation Critical thinking, problem-solving, decision-making Learning to learn/metacognition
	Tools for working	Information literacy Information and communication technology (ICT) literacy
	Ways of working	Communication Collaboration (teamwork)
	Ways of living in the world	Citizenship—local and global Life and career Personal and social responsibility
World Economic Forum (2016)[e]	Foundational Literacies	Literacy Numeracy Scientific literacy ICT literacy Financial literacy Cultural and civic literacy
	Competencies	Critical thinking/problem-solving Creativity Communication Collaboration
	Character Qualities	Curiosity Initiative Persistence/grit Adaptability Leadership Social and cultural awareness

(continued)

Table 15.1 (continued)

Framework (year of issue)	Clusters	Definition of key skills and competencies
OECD (2019)[f]	Task Performance	Achievement orientation Responsibility Self-control Persistence
	Emotion regulation	Stress resistance Optimism Emotional control
	Collaboration	Empathy Trust Cooperation
	Open-mindedness	Curiosity Tolerance Creativity
	Engagement with others	Sociability Assertiveness Energy
	Compound skills	Self-efficacy Critical thinking/Independence Self-reflection/Meta-cognition
European Commission (2019)[g]	Eight key competences	Literacy competence
		Multilingual competence
		Mathematical competence and competence in science, technology and engineering
		Digital competence
		Personal, social and learning to learn competence
		Citizenship competence
		Entrepreneurship competence
		Cultural awareness and expression competence

Source: Authors own elaboration based on chosen frameworks
[a]enGauge (2003). 21st Century Skills
[b]P21 (2009). P21 Framework Definitions
[c]National Research Council (2012). Education for Life and Work. Developing Transferable Knowledge and Skills in the 21st Century, in: Pellegrino and Hilton (2012)
[d]ATCS (2012). Defining 21st Century Skills, in: Binkley et al. (2012)
[e]World Economic Forum (2016). New Vision for Education: Fostering Social and Emotional Learning through Technology
[f]OECD (2019). Assessment framework of the OECD Study on Social and Emotional Skills, in: Kankaraš and Suarez-Alvarez (2019)
[g]European Commission (2019). Key Competences for Lifelong Learning

Among the core or key skills, the four Cs—critical thinking, creativity, collaboration, communication— have a leading position (Joynes et al., 2019, p. 12) and define the most desired cognitive abilities. In comparison, interpersonal and intrapersonal competencies receive less emphasis (Reimers & Chung, 2016, p. 3) and form instead a bulk of unpopular or rather marginal skills and competencies,

including *basic literacy, contextual learning, environmental literacy, interpersonal skills, metacognition, visualization skills* (Hanover Research, 2011 [original emphasis]), but also *non-cognitive*, *soft*, *whole child development*, *transversal*, *transferable* or *social emotional* skills and competencies (GPE, 2020, p. 2 [original emphasis]).

Generally, skills and competencies are considered an overarching concept for the knowledge, skills, and dispositions that citizens need to be able to contribute to the knowledge society (Voogt & Roblin, 2010, p. 16). What might count as a skill or competency, then, depends on what is required on the labour market. In this sense, Lamb et al. refer to skills as to *context-based forms of developing expertise* (2017, p. 12 [original emphasis]). That is, being or becoming an expert requires mastering abilities necessary for a particular working task or position. To what extent future job roles will require the particular skills and competencies deemed essential by todays strategies remains, however, unknown. When critically approached, the forms of expertise, or rather employability skills (Gravells, 2010), can be seen not only as *context*-based, but also as *discourse*-based and informed by various educational, economic, and political rationales. Although there exists a wide range of ideas on how future education could or might look, the 21st century SCD clearly predominates and steers the way global and national education policies identify and set their objectives and agendas.

15.3.1 Four Aspects of the 21st Century SCD

The 21st century SCD, expressed in national and global frameworks, informs and provides a strong basis for navigating educational policymaking on various governance levels. It also, however, impacts the way individuals conceive of qualification and proceed in their school-to-work and work-to-work transitions. In this stage of analysis, the frameworks have been assessed as discursive manifestations of the debate on key skills and competencies, out of which four aspects could be carved out and further used to understand the production of subjectivities.

The first aspect points to the forced *uniformity and homogeneity* of the subjects. As can be seen from the overview, the global search for key skills and competencies shows striking conformity and agreement among international organizations, research think-tanks, national governments, and private partnerships on what core or key skills are, which is surprising given the vagueness, difficult of measurement, and highly subjective understanding of these skills (Soland et al., 2013; Suto & Eccles, 2014). The global focus on key skills, which indirectly implies the existence of marginal skills, shows that from the sum of manifold skills obtained by individuals during their life, only a certain number counts as desirable and necessary. This differentiation of competencies directs from the very beginning the process of obtaining and mastering skills, in which individuals are no longer invited to choose freely from a variety of skills and possible, perhaps even not yet existing, competencies, but are instead conducted to conform to the uniformity of supreme ideals of the

future labour market. There is little evidence, however, of what the future labour market will look like and whether it will in fact require the skills and competencies defined today as *key*.

The second aspect highlights the processes of *individualization and competitiveness* of the subjects. Etymologically, to have a competence (or competency: a more job-related version of the term) means to do something well or successfully (Cambridge Dictionary, n.d.). That is, it is not to fulfil a given task to the best of ones own ability, but to fulfil a given task as it was desired and expected to be fulfilled. In the former, self-satisfaction stays in the foreground, whereas the latter case is a response to external expectations of success. Such a construction of competency or skill is considered by Hampson and Junor (2009) as a distinctly *Anglo* concept—individualistic, defined by employers, and not contested by (or embedded in) other social forces ([original emphasis]). Gaining a competence, thus, goes along with readiness to compete (the word has the same root as competence) for the best performance of external tasks. Success criteria, although individualistic in their nature, are not set by individuals themselves, but are dictated by external expectations, norms, and values, which keeps individuals in a constant mode of competition and self-actualization.

The third aspect is that the discourse on key skills and competencies presents itself as *self-evident and natural* phenomenon. Key competencies and skills are presented in the frameworks as a matter of fact, without reference to those who ought to gain and make use of them. Future subjects are instead portrayed as initially and pre-reflexively willing to gain any competencies needed for a successful school-to-work or work-to-work transition. In this vein, the acquisition of key skills and competencies is presented to subjects not as a deliberative choice, but rather as a necessity and a natural progression of events, as a continuous, open-ended, and highly competitive endeavor. The latter, however, cannot be controlled by anyone, as no one can be held responsible for making the wrong predictions about what qualities and competencies will be necessary for the future labour force. As Finegold and Notabartolo point out, investing in improving individuals general capabilities is unlikely to yield a positive return if jobs are not designed to use them (2010, p. 41). Nonetheless, key skills and competencies seem to have no alternative in securing stable transitions.

The fourth aspect is the *geopolitical dimension* of the 21st century SCD. As with any other discourse, the 21st century SCD is not bounded to any institution, government, business structure, or individual. Nonetheless, it occupies and reproduces the geopolitical space of neoliberal knowledge-based societies, which gives meaning to its existence, intelligibility, and legitimacy. The focus on skills and competencies within neoliberal knowledge-based societies expresses the assumed core condition for a sustainable and socially inclusive society. However, on a global scale, they have dominant influence on how knowledge is perceived, produced, and shared, using tacit success criteria expressed in rankings, impact factors, or international cooperation standards as means of securing a hegemonic position (Ricken et al., 2014; Bengtsen et al., 2019). Furthermore, it is within this geopolitical space, where the appeal to excellence and innovation increases expectations and demands on

subjects (Rostan & Vaira, 2011; Rasmussen & Ydesen, 2019) and where the production of subjectivities takes place and is transferred to other epistemic spaces.

The aspects developed above provide important background information for understanding the processes of subjectivation within the 21st century SCD. There are certainly good reasons why the various frameworks identify similar skills and competencies, including the globalized character of the world, the evolution of technology and ICT, and the need for innovation (Chalkiadaki, 2018, p. 10), all of which affect every country in the world (more or less the same).[2] However, it still continues to be controversial how to measure the acquisition of these competencies and how they relate to each other (Finegold & Notabartolo, 2010, p. 30). Pellegrino and Hilton, for example, claim that, so far, only a few studies have demonstrated a causal relationship between one or more 21st century competencies and adult outcomes (2012, p. 4) and that the comparison of publicly stated skills (within international frameworks) and formally required skills (when applying for a job) has not yet been done. Up to now, there is little evidence on how many job offers require creative and innovative workers and how it should be determined who is creative or innovative enough to hold a particular job.

15.3.2 Framing Subjectivities of the 21st Century SCD

The previous textual analysis of the 21st century SCD showed how discursive structures and practices enable the production of desired subjectivities. The following fine-grained analysis addresses these processes more closely and outlines three central tension-pairs that frame the production of subjectivities.

15.3.3 Willing vs. Unwilling Subjects

The first tension-pair contrasts the logics behind the willing and the unwilling subject. Apparently, the 21st century SCD focuses on the development of individual skills and competencies, replacing the focus on structural changes and rearrangements that cause mismatches between proclaimed and actual efforts to change social inequalities (Parreira do Amaral & Zelinka, 2019). Subjects are thus obliged to gain new, and extend existing, capabilities, skills, and competencies. This self-actualization and self-responsibilization of individuals foster the production of an employability- and market-driven subjectivity—the modern self-entrepreneur (Bröckling, 2015)—which is globally becoming a mindscape, a kind of novel culture (Moisio & Kangas, 2016, p. 275). In this culture of production, however, it is

[2] It needs to be acknowledged, however, that there remains a crucial distinction between countries providing the labour for producing raw materials for digital technologies and societies in which they are used and profits from them made.

not skills and competencies gained by subjects, but subjectivities, i.e. modes of self-conduct based on desired competencies, that become a source of production (Reed, 2009, p. 33). Subjects are only disposable unless they acknowledge and enhance their self-entrepreneurial subjectivity and show passion for growth and a will to accelerate (Vostal, 2016). Subjects' willingness and passion, i.e. the guarantee that they *will try* to obtain new skills and competencies, whatever their usefulness might be, become the new production factors. Within this logic, the differentiation of the *willing* subject co-creates its opposite, i.e. the *unwilling* subject, labelled as unemployed, undocumented, or disposable individual (Oksala, 2015). While the willing subject finds its self-realization in gaining new skills and competencies, the unwilling subject turns into the target of the lifelong learning (LLL) discourse, expressed and institutionalized in manifold policies that intervene with logics of prevention, compensation, activation, or empowerment (Parreira do Amaral & Zelinka, 2019, p. 409). Thus, when critically approached, the subjectivity of willing individuals produced by the SCD presents a counterpart to subjectivity of unwilling individuals produced by the LLL discourse.

15.3.4 Outcome-Oriented vs. Quality-Based Competencies

The second tension-pair is the analytical differentiation between outcome-oriented and quality-based competencies. This differentiation has been identified by choosing the most prominent skills and competencies from the frameworks, reflecting upon possible quality-based counterparts, and juxtaposing the two kinds of skills (Fig. 15.1).

As mentioned before, the key skills and competencies are not only highly subjective, hard to measure, and volatile with regard to their longevity, but also mainly *outcome-oriented* (coloured blue in the Fig. 15.1), i.e. gaining them shall increase the employability of the individuals. Moreover, when testing the feasibility of the outcome-oriented skills and competencies, several questions arise. First, it remains unclear whether the subjects become competent and more employable by targeting the proposed skills and competencies, i.e. whether these competencies will actually be needed in the future labour market. Moreover, since they are difficult to integrate into school curriculums and programmes (Chalkiadaki, 2018), it is a matter of concern how they can be practically deployed: How can creativity, critical thinking, or innovation be taught? Who can provide leaving certificates on creativity, critical thinking, or cooperation? Who can guarantee that these skills will be valued in the same way in various labour markets and sectors? Finally, do employers consider these to be the key competencies they require of potential employees?

Opposed to the outcome-oriented skills and competencies, the so-called *quality-based* skills and competencies (coloured red in Fig. 15.1), which have not been explicitly stated in any of the frameworks, could assess educational challenges more holistically and in a longer-term perspective. On the one hand, they put a lot more weight on personal integrity and the ability to interact in accordance with the

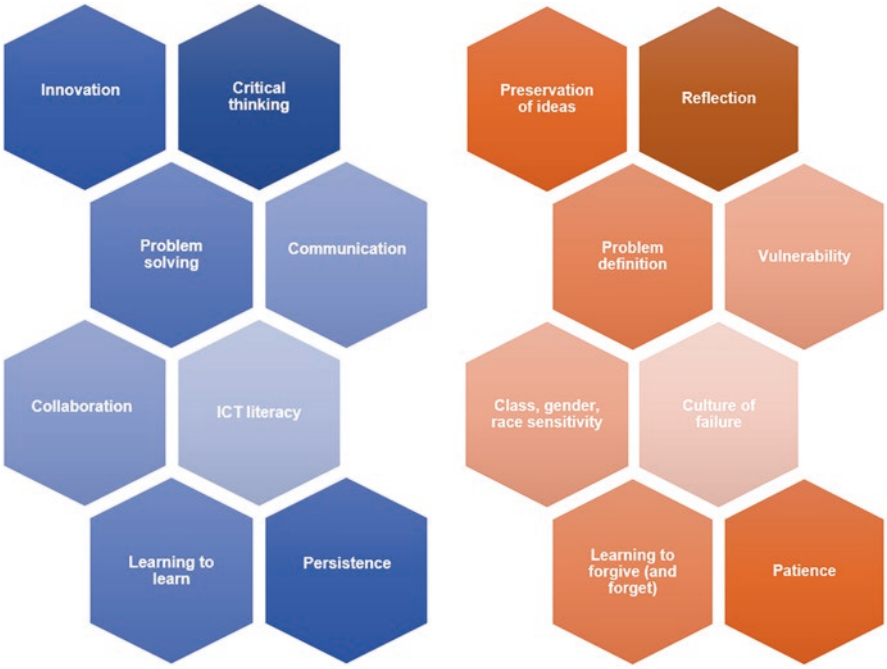

Fig. 15.1 Outcome-oriented (blue) vs. quality-based (red) skills and competencies. (Source: Authors own reflection and juxtaposition)

limited possibilities and capabilities of others. Obtaining them is accompanied by obstacles, failures, misunderstandings, and errors, which cannot be solved alone but only by mutual interaction. Here, the endurance and acceptance of open-ended questions, the ability to handle delicate issues with care, and the readiness to envision solutions beneficial for all parties involved require more than just individual training; they require nurturing the sense of responsibility for others and enhancing the quality of life itself, not just the quality of working life (Lamb et al., 2017, p. 12).[3] On the other hand, they do not conceive personal potentials as growth factors, but rather seek to transform individual specificities into social benefits. The example of vulnerability could best illustrate this idea.

Generally, vulnerability is treated as a negative condition of certain individuals that affects their life and career chances. In educational policymaking, vulnerability has become a new framework for, and a particular perspective on, the education of excluded or vulnerable social classes (Parreira do Amaral & Zelinka, 2021). However, the emphasis on vulnerability's positive condition can open space for

[3] As in the case of outcome-oriented skills, the quality-based skills are hard to teach and evaluate in terms of certificates or grades, too. The measurement of inter- and intrapersonal skills cannot be accomplished by institutionalised procedures, but rather by long-term refinement of working and living culture.

fruitful reflection, since it not only evokes the state of being threatened or injured, but also points to specific soft skills, such as tenderness, compassion, openness to others, softness, and fragility (McLeod, 2012, p. 22). Reframing vulnerability as a positive condition can empower subjects to transform their sensitivity to social inequalities, stigmatizations, labels, and oppressions into full civic engagement and active political participation.

15.3.5 Economic Growth vs. Social Inclusion

The third tension-pair is the ambition of many educational policies to achieve sustainable economic growth and, at the same time, guarantee social inclusion and equality of opportunities, which has been central to various policy agendas across the globe (European Commission, 2010, 2013; OECD, 2018; United Nations, 2020). In this regard, reasoning about new skills and competencies for the future labour market can undoubtedly stimulate governments, educators, and private partnerships and bring about positive effects. What needs to be questioned, however, is not so much their incorporation in national education standards (Ananiadou & Claro, 2009, p. 5), but rather their impact on the structure of national and regional labour markets and the future labour force. As Joynes at al. have suggested, while it is acknowledged that there are extensive projected demands at the global level, discussions should also recognize the degree of diversity of demand across regions (e.g. East Asia vs. sub-Saharan Africa), as well as the ways in which contextual and economic circumstances of underdevelopment can inform practical skills needs and priorities at national and sub-national levels (2019, p. 6). Different regions have different demands in terms of the qualification of the labor force. While some regions need highly skilled workers, others rely on a low skilled labor force, depending on factors such as population increase, household income, educational attainment, homeownership, and state-specific influences (Zimmer et al., 2013). It is therefore questionable whether the same competency holds the same value in different regions. To what extent do the frameworks on key skills and competencies acknowledge regional disparities and specificities? Do the key skills and competencies recognize the context-sensitive regional issues, tensions, and relationships? How can the support of key skills and competencies contribute to regional cohesion and social inclusion and how will they prepare the future labour force for regional challenges?

To sum up, the new kind of subjectivity has three key characteristics: *first,* the willingness of the subjects to pursue key skills and competencies and their readiness to compete in the global labour market; *second*, the primary focus on outcome-oriented skills and competencies that enhance employability and self-entrepreneurism; and *third* promoting a homogeneous set of skills applicable to global issues, but not to regional demands. These core aspects of the new subjectivity are developed within and fostered by the 21st century SCD, which has steadily become a navigational technology for schools and education institutes all across the

globe. The final section will set the results of this fine-grained analysis into the broader context of the (new) GoK.

15.4 Global Geopolitics, Global Governmentality—Concluding Remarks

The tendency towards substantially *new* geopolitics of knowledge, compared to previous attempts to mould global education in the last century (Benavot et al., 2007), has been characterized by researchers not only as a process of industrialization and economization of global education, but also as a confrontation of various discursively constructed illusions, imaginaries, rationales, and expectations (Castree & Sparke, 2000; Belina et al., 2013; Moisio & Kangas, 2016) that make use of the mutual dependency of various spheres of society, most prominently education and the labor market (Kovacheva et al., 2019, p. 242). Apart from the epistemic and political re-definition of knowledge-production, the current geopolitical transformation signals a change of power relations as well. To capture them, this section conceptualizes the new GoK as a part of global governmentality.

Developed by Michel Foucault, the notion of governmentality describes the way society is governed by conducting the self-conduct of individuals (Foucault, 2004). Framing the new geopolitics of knowledge as a global governmental technology enables fruitful insights into micro-mechanisms of power that operate beneath global tendencies and developments. In this regard, the transformation of subjectivities can enlighten how power relationships change and direct the further development of the new GoK. Against this background, some concluding remarks can be made.

First, the governing of subjects starts with *problematizing and individualizing* educational issues. Current educational challenges to address, volatility, uncertainty, complexity, ambiguity, (acronymised as VUCA; Hughes, 2018, p. xiv), are expressed in terms of the need to equip individuals with the necessary skills and competencies that would assure productivity and growth in unpredictable and uncertain times. The global frameworks of the 21st century SCD are seemingly leading subjects to acknowledge this necessity and adopt the subjectivity of self-organising learners (Tuschling & Engemann, 2013) and self-innovators. However, while they pay attention to the individual dispositions of anonymous subjects, they also turn a blind eye to regional disparities, postcolonial differences, and global power imbalances, thereby strengthening the existing hegemony of neoliberal knowledge-based societies.

Second, and in line with the previous argument, global governmentality operates by *authorizing and validating* the means of knowledge-production. While the central idea of neoliberal knowledge-production is the need to provide excellent, innovative, and cutting-edge research and education, the question of whether and when excellence has been reached or not has long remained an unquestioned assumption.

Instead, educators across the globe exchange their views on how it could be achieved (Ferrari, 2002; Taylor & Ryan, 2005; Van den Branden et al., 2011). The global governmentality of knowledge-production has succeeded in imagining a space in which a certain group of people can decide on what counts as excellent and innovative and, in turn, where the necessary resources, including funding, material infrastructure, or academic and research personnel, should be allocated. In this way, it has strengthened the power positions of those authorised to define future progress, excellence, and innovation and blocked those unable to commit to this kind of knowledge-production.

Third, the (new) GoK as a governmental technology seeks to conduct the conduct of individuals by *subjectivation, differentiation, and creation of liberties*. On the one side, it promotes self-entrepreneurism and favors initiative, willingness, and self-actualization. On the other side, it cares for the excluded or disposable individuals, framing them as vulnerable or in need of assistance, thus leaving no space for refusal or resistance. It imposes a neoliberal vision of knowledge-production on to global education and positions itself as a forerunner of things to come, turning the self-declared ability to distinguish future challenges into an asset. The opposition to this kind of novel and innovative endeavor starts with questioning its very basis, i.e. its definition of subjects as knowledge-bearers.

The chapters conceptual work on the processes of subjectivation within the dynamic of the new geopolitics of knowledge seeks to inspire further debates and studies on global education. As stated at the beginning of the chapter, new geopolitical shifts lead to the production of new kinds of subjectivities, which have been analyzed using the example of the 21st century SCD. However, the subjectivities analyzed not only express asymmetrical power relations and the forthcoming differentiation between the excellent and the excluded but also point to a larger paradigmatic transformation of education and society: a pervasive neoliberal instrumentalization of the former and a deep atomization of the latter. Further research shall therefore focus on uncovering converging forces in global education, particularly the attempts (of individual and collective subjects) to resist the current trends and conceive education as a chance to change, rather than as a battleground of conflicting ideas.

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Chapter 16
Conclusion – Searching for Condensation Points of a (New) Geopolitics of Knowledge

Marcelo Parreira do Amaral and Christiane Thompson

The chapters of this book give an intriguing account of the manifold developments and transformations higher education is undergoing. They offer a rich range of insights into quite different aspects, levels and issues that together show how the higher education sector is currently being embedded within various geopolitical global constellations. In our concluding chapter, we will discuss these transformations in higher education along the themes that compose the three parts of the book (imaginaries – spaces – tensions, places – institutions – interactions – connectivities, and subjectivities and subject-formations). The crucial point here, of course, is how to bring so many and so different things together, in particular when they take place at differing paces, with varying intensity and are felt in dissimilar ways in different places. Some of the ongoing changes and transformations are well visible and difficult to oversee, others are increasingly becoming discernable while still others are barely perceptible. One way of coping with the conundrum of bringing these sometimes disconnected yet related developments under a common frame is to use a figurative language that offers conceptual means to identify hidden similarities and relations. In the following we will use the term condensation point as such a metaphorical concept that may help us here.

The branch of mathematics related to studying spaces, figures, and their properties is called *topology*. As a subdivision of geometry, topology is in turn concerned with spatial and temporal properties in understanding ideas of (dis-)continuity. In this context, condensation points refer to a topological space, in which every

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neighborhood of it contains an uncountable number of points of a given set.[1] In simpler terms, it is the point around which there are infinitely many other points of the set in a certain range. Something like a concentration, such as the point clouds in the representation of statistical surveys.

In trying to grasp what geopolitical transformations in higher education mean, resorting to such a concept may help us identify and locate different socio-discursive-material configurations that hint at transformations – continuities and discontinuities – which otherwise could not be perceived in the maze of imaginations, voices, interactions, discourses, policies and so on. In particular, it is a way of coping with the breadth and depth of the topics and issues dealt with in the chapters collected for this volume.

16.1 Imagining, Fabricating, and Contesting the Future(s) of Higher Education

Several chapters of this book deal with how higher education has been integrated in the *imaginations of the future* – be this envisioned in economic, political, or social terms. They deliberate and examine how higher education is (re)spatialized to become congruent with policies, strategies, visions of different interests – countries, world regions, companies, think tanks, and networks. The contributions to this part of the volume also show that the refiguration of higher education is also contested and that there is resistance, albeit not always in organized forms.

Basically, the reimagining of higher education pertains all layers and spheres of the sector, from the missions and roles attributed to it, to the typical organizational forms and institutional models, to the norms framing the purposes higher education is to fulfil in societal and economic life. To phrase in terms of the Minerva Project discussed in the introduction: the idea is to 'push the reset button' and start from scratch.

Along with this reimagining of the sector is a radical change in role and validation of higher education has taken place. Arguably, two main features of higher education – as it developed since the early nineteenth century onwards – are currently undergoing important transformations: on the one hand, the modes and orders of its legitimation as a public good; and, on the other hand, the ways of addressing questions related to its operative realization (see the chapters by Amos, Chap. 4 and by Parreira do Amaral, Chap. 3, in this volume). The *first* aspect revolves around a set of questions related to the discursive construction (as well as de- and reconstruction) of the moral-political quality of *public* education as a means of (state) government and of social integration. Further, issues pertaining the logics, rationales and

[1] Topology, general. Encyclopedia of Mathematics. Online at: http://encyclopediaofmath.org/index.php?title=Topology,_general&oldid=42992; see also: Condensation point of a set. *Encyclopedia of Mathematics*. URL: http://encyclopediaofmath.org/index.php?title=Condensation_point_of_a_set&oldid=31620 [last May 31, 2021].

dynamics of policy-making and research are affected as new actors and (business) interests become involved. Here, issues of justice, freedom, equality, and equity come to the fore since access to higher education has become the central feature of social participation and mobility. In light of this momentous shift in the relationship between state and public education, the dominant discourse about the role of higher education in *knowledge-based economies* appears as the 'context of contexts' (Brenner et al., 2010; Dale, 2015) of these developments. The chapters by Moisio, by Partaken and by Rizvi all show how this process of economic integration of higher education as economic features of knowledge-intensive capitalism produce important geopolitical shifts and insert dynamics that shape how higher education is viewed.

Imaginations of the future of higher education are indeed omnipresent in current discourses. This applies not least to higher education sector but to education in general; however, higher education has now for some time been fully integrated in the visions of the economic and social futures of knowledge societies or knowledge-based economies, insofar as it is deemed to bring about certain future conditions in educational institutions, research output and innovation, and learners or to prepare them for the projected social changes. Indeed, policy agendas are necessarily based on assumptions about future developments. At the same time, they help shape these developments by, on the one hand, creating images of desirable and less desirable futures and, on the other hand, reacting to anticipated developments.

Economic sociologist Jens Beckert termed these circumstances 'fictional expectations', which for him are „present imaginaries of future situations that provide orientation in decision-making despite the uncertainty inherent in the situation" (Beckert, 2013, p. 222; see also Beckert & Bronk, 2018). 'Fictional expectations' may unfold negative and positive sentiments. In that they help give shape and orientation towards a desired future, a positive sense of direction is achieved; when summoning images of undesirable or feared futures, they unlock negative feelings.

In practice, however, the distinction between forecasting and imagining, between neutral prediction on the one hand and constructing a desired future and setting agenda on the other disappears, often forming an inseparable unit. Moreover, 'fictional expectations' may also be made – in the cautionary sense – in order to prevent a possible future outcome to occur. Imaginations and fabrications, thus fulfil the function of giving direction in the context of 'uncertain futures' (Beckert & Bronk, 2018), impacting how higher education institutions are perceived, how they are to be organized, which relations they entertain with other institutions and other sectors of society; they, moreover, also relate to the field in a narrower sense in that they devise not only ways of doing but also ways of being. The imagined or fabricated futures must appear plausible in order to be effective. In other words, it is imperative for those advocating such a future that these appear as actually possible futures and the courses of action derived from them be viewed as legitimate. In producing plausibility and legitimacy, narratives and stories play a crucial role (Gadinger et al., 2014 Beckert, 2013; Beckert & Bronk, 2018).

In summing up, the chapters in *Part I* of this volume provide insights of how transformations in higher education condense around specific visions of the future

and of higher education in it. The chapters by Amos, Chap. 4 and by Delambre, Chap. 7 (in this volume) also offer glimpses into alternative visions of and for higher education; the provide valuable hints at the possibility of bringing different ways of thinking and action into play.

16.2 Re/Spatializing Higher Education: Places – Institutions – Interactions – Connectivities

The chapters in *Part II* of the book presented and discussed 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.

Re-spatializing higher education amount to substantial shifts in the ways the institutions in the sector interact, with direct impact on modes of competition and collaboration. Many, if not most, higher education institutions have traditionally had a national and regional orientation, they have catered to and were seen as contributing to their more immediate environments. Envisioning higher education as competing in global circles place them in a 'battle for world-class excellence' (Hazelkorn, 2015) that shifted institutions targets and priorities, giving rise to conflicts in terms of missions, in terms of disciplinary hierarchization, and not least in terms of pursuing social equality among the students they enroll (see Boyadjieva, Chap. 8, in this volume). The chapter by Hartmann (Chap. 11, in this volume) likewise shows that this battle for competition may be seen as encompassing the whole post-secondary sector, not only higher education; it also provides important hints at the role of multinational corporations in pushing this development. Indeed, this re-spatializing has reinforced demixing and segregation trends in the sector, with cooperation links and networks sought and coalitions built on strategic decisions, that aim at establishing dominant nodes – or hubs (see Erfurth, Chap. 12, in this volume) – and *connectivities* that not only link global, national, regional, local levels, but in particular reshape relations between the state and private spheres. Examples of this are discussed by Rizvi in terms of transnational research networks (Rizvi, Chap. 6, in this volume; see also Rizvi, 2018), but also by Boyadjieva (Chap. 8, in this volume), who sees rankings as reputational networks or webs.

In more abstract terms, higher education institutions are no longer simply immersed in national/regional territorial spaces, but deeply connected with topological (digitalized), geopolitical (connections between place, the state and politics), and discursive (imaginaries and visions) spaces that shape their preferences, strategic decisions and operative modes in the name of bringing about quality, excellence and innovation, thus justifying perpetual reforming and transforming.

Economic theorist Joseph Schumpeter (1993 [1911], 2010) was one of the first to call attention to how innovating an industry depends on discontinuities and crises.

His well-known theory of 'creative destruction' changed the way economists look at processes of innovation by reframing the issue as follows: "[…] the problem that is usually being visualized is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them." (Schumpeter, 2010, p. 74).

For Schumpeter, capitalism is to be seen as an evolutionary process, and "by nature a form or method of economic change and not only never is but never can be stationary." And the motor of economic development involved crucially the implementation of new productive 'combinations of things and forces'; indeed, for him, "the fundamental impulse that sets and keeps the capitalist engine in motion comes from the new consumers' goods, the new methods of production or transportation, the new markets, the new forms of industrial organization that capitalist enterprise creates." (ibid., p. 72 f.)

Against this background, understanding the ongoing transformations in higher education may be seen not as anomalies, but rather as part and parcel of its integration in knowledge-intensive capitalism. Here questions arise as to the possibility and ability of institutions to fulfil not simply the economic mission attributed to them, but resist destroying the long-established relationships that validated and legitimated them along the past hundreds of years.

16.3 Designing and Constructing the Subjectivities of Innovation

Part III on this volume focused on the '*subjectivities and subject-formations*' of the archetypal subjects that are to be produced – innovative, entrepreneurial, connected, flexible, collaborative, etc. The chapters included in this part aimed at illuminating existing and new rationalities, discursive practices, and technologies of power to model the self-conduct of subjects in higher education, shaping their thinking, acting, and self-understandings (see Zelinka, Chap. 15, in this volume). They also looked into the governmental (digitized) technologies that are deployed to construct the preferred social figures of higher education – best suitable/excellent students, academic entrepreneurs, edupreneurs, venture academics, experts and drivers of innovation, etc. – including how these are to internalize and accept these institutionally acknowledged and socially accepted roles, duties, and responsibilities by means of processes of discursive construction and embedding of a particular form of self-understanding, self-conduct as well as algorithmic sense-making (see the chapters by Thompson et al., Chap. 13 as well as by Jornitz and Klinge, Chap. 14, in this volume).

In the early twentieth century, German sociologist Max Weber wrote about 'science as a vocation' and focused on the material conditions of the academic career – distinguishing between plutocratic (Germany) and bureaucratic (USA) systems – that led to a more or less stable position. Weber's account of factors that play a role in

deciding academic fates pointed clearly to external things, rather to someone being the most qualified scholar/teacher: hazard, their ability to sustain themselves during the uncertain pathway to tenure, the vagaries of 'intellectual aristocracy', etc. While these circumstances changed little since then and academic pathways to stable conditions are still risky and highly competitive, both the material and labor conditions of scholarly work but also of student experience and the modes of control and of self-conduct have changed markedly.

One common thread discussed in this volume refers to how notions of subjectivities – including the identities, rationalities, modes of conduct, structures of reward and recognition – no longer are depicted in terms of stable content and properties, allocated to permanent positions. Rather, both the qualities and faculties of those inhabiting higher education – students, teaching and research staff – are viewed as in a flux of permanent mutation, constantly flexible and ready for innovation (destruction and creation). In short, this appears as another facet of the theme of disruption discussed in relation to the organizational and institutional formats higher education is to adopt in order to cope with the challenges of the global competition of knowledge-intensive capitalism.

A further theme that comes to the fore is how the use of digital technologies impact the very (self) conduct of those populating higher education; it becomes visible that these are not simply new modes of delivery and/or organization that lead to more efficient and cost-effective operations; instead they affect the self-conduct of subjects in higher education, shaping their thinking, their behaving, and indeed self-understandings. Here, the performing of universities (macro level) is directly linked to the performing and indeed performativity of students and staff (micro level), making it a central tenet of success in the competitive geopolitics of higher education, as discussed by Thompson and colleagues (Chap. 13, in this volume), and as an effect of 'algorithmic technologies', as discussed by Jornitz and Klinge (Chap. 14, in this volume).

Against the background of these debates, it is worthwhile enquiring into the consequences of the shifting from 'stable positions' to 'dynamic performance' as the primary mode of subjectivity, and of subjectivation in higher education. In line with this, Hartmut Rosa's theory of acceleration (2015) has been applied to the patterns of recognition in society that shapes relationships in modern social life. For Rosa, technological acceleration (visible in transportation, communication, and production) and an acceleration in the pace of life more generally have amounted to the acceleration of social change. This is reflected in cultural knowledge, social institutions, and personal relationships, encompassing both structural and cultural aspects of institutions and social practices. Manifest in a 'shrinking of the present', this phenomenon makes our relationships to each other and the world fluid and intricate. In referring to the impact of acceleration on the 'recognitional maps'[2] of modernity, Rosa argues that it has had not only implications for how people experience time and history, but also for how people are 'thrown into the world.' In particular, the

[2] See on the topic of recognition: Honneth (2021).

struggles for recognition are impacted directly in that these no longer take place by means of intergenerational positioning, as was the case during most part of modernity. Rather, under late modern conditions, recognition and the ensuing allocation of resources has shifted from a positional to a performative mode of competition. According to Rosa, modern competition for recognition was characterized by the struggle for positions (of a tenured professor, of a director, etc.); as soon as the position was achieved, one could be certain of receiving a certain amount of recognition, status, income and so on (see Rosa, 2009, p. 662ff.). In a performative competition such as the current mode, no longer are there permanent positions and individuals are under constant need and pressure to *perform*. They are as if were under perpetual revision, precarious and in question, they are characterized by dynamic performance. The consequences of such a mode of competition has been discussed at large and converge on the diagnosis of burnout and fatigue (Han, 2015; Neckel & Wagner, 2014; Ehrenberg, 2015). Rosa however also points to the consequences of this phenomenon in terms of solidarity and social integration. In this context it is important to mention that the various forms of individualized learning spaces contribute to the loss of solidarity and the social dimension: All the learners are busy with their own development and their learning. As Bauman and Lyon (2013) pointed out, there are new – liquid – forms of surveillance that are constituted by data streams. They establish a new disciplinary regime with their call for performativity and productivity.

In summing up, the chapters in Part III in this volume provide interesting insights into higher education's reconstruction of material and immaterial learning environments, the governmental technologies deployed to do so, as well as into the subjectification of individuals as specific kinds of individuals that are to contribute to a preferred future of higher education with their twentieth-first century skills and dispositions.

16.4 Researching a New Geopolitics of Knowledge: An Outlook

In closing the concluding chapter, we would like to provide some notes and observations on the task of researching the geopolitical transformations in higher education.

Researching these transformations arguably requires attention to the principles of change, their drivers and direction, but also to the pace and velocity of transformation. Extant higher education research can be found on all these aspects and have already contributed to illuminating the issues at stake. In terms of the principles of change, research has placed a focus on globalization and internationalization as main drivers and causes of change and as demanding reforming (see Altbach et al., 2019; Larsen, 2016; Knight & de Wit, 2018; Hartmann, 2019; Rizvi, 2020). Globalization and internationalization have been seen as strategic and mainstream

factor in higher education; with the latter being viewed as being impacted and in need of reacting to these processes. Research abounds on the ascendancy of higher education institutions as rationalized, organized actors (Ramirez, 2010, 2013; Bleiklie, 2005). More recently, the insertion of higher education in global regional projects came into focus and added an interesting component to understanding higher education developments as related to their embedding in global, regional projects (Robertson et al., 2016; Parreira do Amaral, 2019) or as part of the expanding global education industry (Parreira do Amaral et al., 2019). Also, the changed academic times and different timescapes of higher education have been recently explored, documenting the acceleration of science and deliberating on its implications (Vostal, 2016, 2021; Stengers, 2018). However, a relative dearth of analysis still remains as to the role of higher education itself as a main aspect of global and international developments, including the implications of the transformations in higher education to issues of inequalities, hierarchies, and the social dislocations gaped open by them. In short, analyses are needed that relate more substantially the economic and social imaginaries surrounding higher education and that inquire into their consequences for the sector. These may be pursued in terms of the geopolitical imaginations and the implications for the role and validations of science and education as they are framed by, and integrated in, politico-economic projects of innovation; the implications of these framings in particular for social science and education research, for instance, in terms of epistemology or epistemic governance. They also command attention to the 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; the implications for the institutional infrastructures, such as the diversification and hierarchization of the institutional infrastructure of research and teaching. Finally, attention is required to the archetypal subjectivities that are to be produced – innovative, entrepreneurial, connected – and the deployed governmental technologies; the implications of these developments for individuals in general and for academic careers in particular, including their impact on working conditions on academic personnel.

The chapters in this volume aimed at contributing to furthering these debates and at calling attention to the need of understanding the developments discussed in terms of the relationship of power and space, and not least of issues of spatial justice. Indeed, an insight running through all chapters pertain to how the transformations in higher education discussed in this volume bring about serious implication to social inequality. Researching a new geopolitics of knowledge will thus require attention to the impact of the ongoing transformations on social (in)equality as a cross-cutting perspective. In short, the contributions of this volume aim at putting the socio-technical, geopolitical and geoeconomic transformations in higher education on the research agenda of higher education from a multidisciplinary perspective.

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