

Chapter 8

Urbanization and the Verticality of Rural–Urban Linkages in Mountains



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Abstract Mountains are commonly considered a rural or even wild counterpart to cities. But, is this view still relevant in times of “planetary urbanization”? What is actually “wild,” “rural,” and “urban,” and how do these categories differ in structural and/or functional terms? Are there urban specificities in mountains? Drawing on the concepts of planetary urbanization and verticality, and introducing examples from the Global North and South, this chapter presents a central theme of urban montology, the sustainability-oriented, transdisciplinary study of urbanizing mountain environments: rural–urban linkages between altitudinal zones. Ecosystemic, infrastructural, demographic, economic, and sociocultural linkages in mountains present numerous peculiarities due to relief and altitude of the urbanizing environment. “Flows” of mountain ecosystem services, cable cars linking valleys and peaks, vertical spatial mobility of people, and the deliberate use of alpine environments and identities for branding mountain cities—to attract investors and visitors—are just a few examples that underline the increasing interconnectedness of the former counterparts of intrinsically “urban” cities and “rural” (or “wild”) mountains. This must be taken into account when studying and facilitating the transition of urbanizing mountain spaces into places worth living in for humans and nonhumans.

Keywords Planetary urbanization · Functional cityscapes · Cosmophany · Urban transition · Rurality · Rurban mountainscapes

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8.1 Introduction

Urban settlements in mountains are fascinating places. While cities and towns represent modernity and *urbanité*, mountains are commonly perceived as the last niches of rural traditions or even as wilderness—at least from a romantic point of view (Tuan, 2013). In both the Global North and South, mountain cities often combine these apparent opposites within short horizontal distances, making locals and visitors marvel at dense forests and snowcapped peaks reflected in polished glass *façades* of modernist buildings. Yet the relations between seemingly “urban” cities and “rural” mountains go far beyond ecosystemic and infrastructural linkages into demographic, economic, and sociocultural dimensions.

From an urban montological perspective and drawing on the conceptual separation of spatial structure and function, we aim to identify, reflect on, and connect, rural–urban linkages that are specific to mountain cities and crucial for understanding urbanization processes in mountains. These processes are global in scale and can therefore be defined as “planetary urbanization” (Brenner & Schmid, 2015). Yet while rural–urban linkages are usually analyzed from a horizontal center–periphery perspective, we want to emphasize that the vertical dimension plays a decisive role for urbanization processes in and around mountain cities—from multiple points of view, integrating both matter and mind in the mountainscape. This has happened since time immemorial, throughout the consolidation of mountain nation-states, full fledge empires, megalopolises, and globalized ecumenopolis.

8.2 Urbanizing Mountains: A Conceptual Approximation

8.2.1 *Wilderness, Rural, or Urban?*

The ideas and attitudes of people toward mountains have been diverse, depending on geographical contexts and, of course, have kept changing throughout history (Mathieu, 2011). Celts and Greeks regarded mountains as the abode of deities (i.e., Mount Olympus), but the Romans saw them as obstacles to mobility and trade (Bernbaum & Price, 2013). In the Middle Ages, mountains were perceived as places of sacredness and danger, inhabited by monsters and spirits (Bernbaum, 1997). However, this attitude changed with the enlightenment view of mountains as repositories of resources and, above all, with the poetic vision of Romanticism. In the eighteenth and nineteenth centuries, interest in the mountains as a place for outdoor sports (e.g., climbing and skiing) grew, as well as the number of scientific studies on mountains, both in the physical description and in the customs of their populations. This new interest finally opened the way to contemporary attitudes toward mountains as places for tourism, recreation, sport, traditions, and authenticity, and, very importantly, the idea of a wild, pristine, and uncontaminated nature. Today, this latter vision, which paved the way for the establishment of protected mountain

areas, is interwoven with current concerns about global climate change, which affects mountain contexts dramatically. But are mountains really one of the last bastions of nature as opposed to culture?

As Berque (2011) has shown, the Western view of the urban, the rural, and the wild is a social construct with relatively ancient roots that can be traced back to the Roman idea of the *pomoerium*, which is outside the city walls. The rural (having an Indo-European root, **reyǝ-*, **rǝ-* meaning “to tear out, to ream, to open”; *reyes-* meaning “open space”; see Pokorny, 1959) is a consequence of human intervention on the primordial space, the wilderness (an etymological relative of the forest, as *wild/Wald* or *selvaggiol selva* in German and Italian might indicate), by clearing forests and so establishing the boundary between forest and field, the domains of “the natural” and “the cultural.” Hence, the rural was once related to the cultivated. With the creation of walled cities (the urban, possibly from Indo-European **werbʰ-* meaning “to enclose”), however, it has become the intermediate (and ambiguous) space between the compact urban settlement (the cultural, artificial) and the wilderness (the primitive). It is ambiguous because “the city naturalized the countryside: it turned it into nature. Ever since, countryside has meant nature [...]. The countryside [...] is the wild side, the *wilderside* of our urban world” (Berque, 2011: 56). Now, in the contemporary world, nature is nothing more than a “philosophical fiction,” given that “from the stratosphere to the oceans, through the tropical forests [...] our influence is evident everywhere and to varying degrees” (Descola, 2015: 59). And this does not exclude the mountains, which face important processes of planetary urbanization.

8.2.2 From Urban Cities to Planetary Urbanization

While Berque (2011) discusses spatial structures, the concept of “planetary urbanization” refers to a set of contemporary urban processes related with socio-spatial and material transformations, mediated by industrial capitalist development, and with the idea that the urban goes beyond the defined confines of the city (Brenner & Schmid, 2015). Drawing on Lefebvre, Brenner and Schmid (2015) argue that the (functional) dichotomy between the urban and the rural has been overcome and that there are no places that are not touched by urbanization processes. One of the main characteristics the authors identify is the dialectic between “concentrated urbanization” and “extended urbanization” for overcoming old divisions of functionally “urban,” “nonurban,” or “rural.” There is a middle ground or “rurban” space along the cityscapes. The functionally urban, then, is not something exclusive to the city, but is found everywhere, even in structurally rural areas, and includes all the socio-material elements, the linkages between diverse and distant places that provide goods to the concentrated areas. Thanks to infrastructure development, remote communication alternatives, and the flow of goods, for example, on rivers, railways, roads, or cable cars, spaces such as high mountains, historically considered nonurban and “outside” of the connection networks, are also urbanized. In short, Brenner

and Schmid understand planetary urbanization as the processes of (1) intensification of land use; (2) intensification of infrastructural connection; and (3) socio-environmental transformations; all mediated by a dialectic between concentrated and extended urbanization of the cityscape. In mountain regions, these processes encounter specific geographical and topographical characteristics, especially the vertical dimension. The concept of “ecumenopolis,” introduced by Greek architect Constantinos Doxiadis (2005), exemplifies planetary urbanization’s extreme event.

8.2.3 Verticality as a Key to Understanding Mountains

Verticality is perhaps the most prominent socioecological characteristic when we think of mountains. One of the first researchers to study mountains with an emphasis on this feature was *Naturforscher* Alexander von Humboldt, who studied the distribution of plants on the Ecuadorian volcano Chimborazo in 1802 (Sarmiento, 1999). More than a century later, geographer Carl Troll introduced the term *Landschaftsstufen*, “landscape steps,” to describe plant and animal adaptation to different elevations, inspiring anthropologist John Murra to develop the notion of vertical complementarity and vertical archipelagos. It is a model of ecological adaptation and control of different ecological niches that was widespread in the Andean region in pre-Columbian times and can even be applied today, although with very different characteristics, since the classic model referred to the years 1460–1560 and has undergone dramatic changes over the last centuries. Originally, the physical-geographic characteristics of mountains strongly conditioned the type of crops that could be cultivated at each altitudinal level. Andean people adapted to the environment, developing agricultural land use systems that involved vertical mobility and control. Today, as Branca and Haller (2021a) have shown for Huaraz, Peruvian Andes, this model can be adapted and applied to illustrate ongoing urbanization processes in and around mountain cities, especially those which connect structurally “rural” (even “wild”) places within the functionally “urban,” presenting a local result of “planetary urbanization” and underlining the need to meet the challenges of an urban montology.

8.3 Urban Montology: The Verticality of Rural–Urban Linkages

Montology is an integrated, transdisciplinary, and sustainability-oriented perspective on mountain regions and its populations. It emerged in the 1970s with reference to Carl Troll’s *Landschaftsökologie* (i.e., geo-ecology) (Troll, 1939) and has been strengthened since the 1990s by scholars such as Ives, Messerli, Rhoades (Ives et al., 1997; Rhoades, 2007), and Sarmiento (2020) (for an overview, see Haller & Branca, 2020). Montological research has concentrated almost exclusively on

structurally *and* functionally rural areas. Studies on cities in mountains were mostly socio-economic analyses that did not show “the holistic aspirations of sustainability-oriented montology” (Borsdorf & Haller, 2020: 140). Borsdorf and Haller (2020) have tried to address this scholarly gap, proposing an “urban montology” by emphasizing, on the one hand, the spatiotemporal specificities of mountain cities and, on the other hand, the need to focus on decisive socio-environmental challenges. One of the most relevant tasks for a typological and geosynergetic urban montology is answering the question what a mountain city is, an issue that requires a basic definition of both mountains and cities. Despite the difficulties in defining what mountain areas are (Byers et al., 2013; Della Dora, 2016), a generally accepted definition is that of Kapos et al. (2000), which posits a minimum altitude of 300 m a.s.l. In areas between 300 and 2500 m a.s.l., it demands an additional local elevation range of at least 300 m or a certain slope inclination ($\geq 5^\circ$ up to 1500 m a.s.l. and $\geq 2^\circ$ above) within a radius of 7 km. Likewise, defining the city entails a series of theoretical-methodological challenges. For the purposes of this chapter, we adopt the definition of Borsdorf and Haller (2020) for whom a quantitative definition (using a lower limit between 5000 and 10,000 inhabitants) can be a useful starting point if the temporal context of the individual city is considered. For the sake of operationality, they propose a structural delimitation of the contiguous built-up area (using a threshold of 200 m between buildings), extended by a peri-urban buffer. If a city so defined lies within or intersects a mountain area, the authors speak of a “mountain city” (e.g., Innsbruck, Austrian Alps). However, it is important to add that such a definition is just a first step. Urban mountain areas often go well beyond the structural boundaries of the built “city” as functional urbanization processes (enabled by rural–urban linkages) extend to areas that can be considered largely “rural” from a structural point of view (e.g., the Utcubamba Valley, Peruvian Andes).

Approaching rural–urban linkages (also known as interactions, relations, partnerships, or dependencies) from a vertical perspective (Tacoli, 2006; OECD, 2013), making mountain specificities visible, and considering both concentrated and extended urbanization processes are at the heart of urban montological research. It helps us to explore how the material and nonmaterial dimensions of mountains influence the form, structure, function, and genesis of urban areas.

8.3.1 *Ecosystemic Linkages*

Vertical ecosystemic linkages can be imagined as relations between urban customers and rural service providers located at different altitudinal zones. From a positivist understanding, an ecosystem—the term was introduced by Tansley (1935)—is a geographical unit of the earth’s surface where “natural” phenomena, including (nonhuman) organic and inorganic, are systematically interconnected (Bailey, 2009: 4). From this perspective, deeply influenced by ecological economics, mainly urban people obtain benefits from predominantly rural ecosystems. These “ecosystem services” (see Seppelt et al., 2011; on “disservices,” see von Döhren & Haase, 2015),

which often come from higher mountain areas (see Grêt-Regamey et al., 2012), can be classified into three groups: provisioning, regulating, and—somewhat apart—“cultural” services. The basic idea is that the value of the benefits (or “services”) can be estimated in monetary terms, paid for, and be an incentive to protect ecosystems (for critiques and alternative interpretations, see Craig et al., 2019; Kadykalo et al., 2019).

More urban altitudinal zones with a higher population density (e.g., valley floors) demand several “services” from zones of a more rural character (usually the uplands): the provision of water is one of the most important, for human consumption and, due to relief, altitude, and potential energy, as a source of hydropower for urban households and enterprises. Mountain resort towns, like Verbier (Swiss Alps) and Madonna di Campiglio (Italian Alps), are special urban settlements that demand high amounts of water and hydropower to produce snow (in case this ecosystem service is not “provided” on time, see Polderman et al., 2020). High mountain grasslands and soils function as filters for hydric sources, regulating water quality. Steep slopes surrounding mountain cities are often covered by forests, which protect against possible gravitative mass movements that could potentially damage (or even erase) entire mountain cities—as demonstrated in the cases of Yungay (Peruvian Andes, see Oliver-Smith, 1979) or Armero (Colombian Andes, see Lowe et al., 1986). The so-called “cultural” ecosystem services usually refer to the perceived human environment, yet it is often overlooked that it is cosmophany (Berque, 2013) that influences how we perceive environments. In many cultural contexts, the uppermost altitudinal zones (e.g., peaks) are sacred places: the Inca for instance, built Cusco in the Huatanay Valley, because the local mountain gods (*apus*) were thought to protect the city (Branca & Haller, 2021b). Given the ongoing debates on ecosystem services, it is no surprise that mountain cities increasingly aim at establishing protected areas in the altitudinal zones that supply these services to the urban population. These protected areas can be interpreted as a vertically (rather than a horizontally) arranged “green infrastructure” (for this term, see Benedict & McMahon, 2002) linked to extended urbanization processes in mountains.

8.3.2 *Infrastructural Linkages*

Green infrastructure for mountain cities can work alone (e.g., regulating services like protection forests) or require integration with built “gray infrastructure” (also human-made infrastructure). The latter can be imagined as a physical network of lines and nodes spanning altitudinal differences and includes ancient canals and aqueducts, reservoir dams, water pipes, wind energy plants and power lines, as well as antennas serving cellular networks (see Price et al., 2001). On the one hand, the case of hydropower development in Lima and the Rímac Valley (Peruvian Andes) shows that the creation of infrastructural linkages may still reflect notions of conquering “nature,” reconfiguring the relations between rural and urban areas (usually vertical upstream–downstream relations) in physical, sociocultural, and legal terms

(Hommes & Boelens, 2018). On the other hand, hydropower development is part of discourses on the “greening” of cities, for instance, “China’s first hydropower city,” Lishui (Chinese Wuyi Mountains; Shiji et al., 2021) and the “ecological” city of Cotacachi in Ecuador.

Perhaps the most relevant infrastructures for urbanization of vertically organized mountain environments are those serving transport, like roads, railways, cable cars, and hiking/bike trails. On the one hand, mountains are physical obstacles to transport development and hamper exchange of goods and people. On the other hand, natural and cultural resources of mountains attract people and can lead to extended urbanization that eventually may produce more concentrated forms of urbanization, like military, mining, industrial, commercial, or tourist cities (tracks for mules or llamas, via Roman or Incan roads, to railway lines constructed in the second half of the nineteenth century, are early precursors of such developments; see Borsdorf, 2004; Stadel, 1986). In India, for instance, the British built several railway lines that led to the development of well-known hill towns like Darjeeling in the Himalayas (Bhattacharya, 2013) and Udhagamandalam in the Nilgiri Mountains (Kenny, 1995), where the powerful urban *élite* originally found what today would be called “rural” cultural ecosystem services. With the arrival of the railways, the East African colonial settlement of Moshi (Tanzanian Kilimanjaro) was even totally moved from the mountain slopes down to the foothills where a new city developed over time (Bart, 2016). In the Peruvian Andes, the construction of the Ferrocarril Central Andino railways led to massive urban growth of Huancayo, the commercial center of central Peru (Haller & Borsdorf, 2013), and influenced the development of the mining cities of Cerro de Pasco and La Oroya (Badura, 1966; Fig. 8.1). Mining was a source of innovation for the development of aerial cable cars, probably the most



Fig. 8.1 The city of La Oroya (3745 m a. s. l.), Peruvian Andes, has developed around a smelter and is reportedly the most polluted city in the planet. (Source: Andreas Haller)

emblematic mode of transport linking urban and rural altitudinal zones. The invention of the steel cable in 1834 enabled the development of aerial cable cars for mining and military purposes (Neumann, 1999); the tourist potential of cable cars for linking urban valley floors and rural high mountains followed soon, for example, in 1908 in Bolzano-Bozen (Italian Alps). More recently, aerial cable cars are also used as mode of transport within cities, for example, to link central district with popular poor settlements in the montane periphery of Medellín, Colombia, or to link the urban *bourgeoisie* and rural migrants in La Paz at 3200 m and El Alto at 4000 m in the Bolivian Andes, a metropolis spanning an altitudinal difference of about 1000 m.

8.3.3 Demographic Linkages

Infrastructural linkages can facilitate human spatial mobility hampered by relief and altitude, be it permanent or temporary migration (usually long term with a change of residence) or circulation (usually short term and lacking information on changes of residence; for these key terms, see Zelinsky, 1971). Demographic linkages in mountain areas, for example, the rural–urban movement of mountain agriculturalists, can depend on the vertical location of their spaces of origin, as Scharr and Penz (2021) show for Trento (Italian Alps) and Milan and Ho (2014) for Huancayo (Peruvian Andes). Linked to de-agrarianization processes is the well-studied phenomenon of *Höhenflucht* (a German term meaning “escape from high altitudes”; also “mountain blight” in English) and the related preference for urbanizing valley floors. This, together with negative effects of climate change, may cause a reorganization of (complementary) systems of vertical land use, from urban valley floors up to the surrounding peaks: consequences of land use change include the physical expansion of urban settlements (for Leh/Indian Himalaya, see Dame et al., 2019), agricultural change (for Moshi/Tanzanian Kilimanjaro, see Said et al., 2021), and the establishment of protected areas at higher altitudinal zones (for Huancayo/Peruvian Andes, see Haller & Córdova-Aguilar, 2018). The latter can affect livelihoods of rural populations in addition to the permanent outmigration of younger sections of the population, which may affect the availability of local labor force. The improvement of infrastructural linkages between rural origins and urban destinations located in different altitudinal zones can be a strategy for reducing permanent rural–urban migration, for instance, through better transport facilities that enable circulation or even daily commuting between places of work and residence or via new information and communication technologies that provide people with the possibility of remote working, for example, in Fujioka (Japanese Kantō Mountains; Nakamaki, 2002). However, planners and policy makers should avoid developing monofunctional high-altitude settlements like tourism resort towns, which were unable to stem *Höhenflucht* phenomena in the past.

In recent years, debates on permanent and temporary urban–rural migration and circulation—including the periodic use of second homes (Zelinsky, 1971), which may cause “naturbanization” phenomena (Prados Velasco, 2008)—have emerged in

the context of “residential multilocality.” The latter could be a result of improved infrastructural links, perceived environmental qualities, and increasing individual freedom and flexibility. Mountain areas with strong ecosystemic and infrastructural linkages can thus become destinations of so-called amenity(-led) migration, where people move from urban to rural areas, increasing the exurban spheres (Donoso & Sarmiento, 2021). We are generally following the argument by Perlik (2011), who underlines that this process is dominated by the economies of agglomeration and metropolization. In this sense, it is a form of (post-)suburbanization, a sign of the weakening of the (also vertical) center–periphery opposition. Yet in selected mountain contexts (mainly in the USA and Canada), it might be closer to demographic disurbanization (*sensu* van den Berg et al., 1982; see, for example, Löffler & Steinicke, 2007). However, on closer examination, even “counter-urban” places like Mammoth Lakes or Bishop (the “small town with a big backyard”; US Sierra Nevada), both served by the Mammoth Yosemite Airport, are outposts of an extended urbanization. In general, however, one should avoid applying chiefly Western perspectives globally when it comes to demographic linkages in mountains (Branca, 2019).

8.3.4 *Economic Linkages*

Vertical economic linkages between altitudinal zones are among the best studied phenomena in mountain research: Land use systems like *Staffelwirtschaft* in the European Alps and *archipiélagos verticales* in the Central Andes are just two examples that have long highlighted the complementary economic functions of altitudinal zones. Recent decades of urbanization, however, have also “urbanized” vertical land use systems (e.g., Haller, 2014), which can now be interpreted as part of the dialectic between concentrated and extended urbanization (Branca & Haller, 2021a): Once, the higher a place, the more rural (or even wild) it was; but today, it is often the highest peaks (together with the lower areas) that show the strongest signs of a leisure-oriented urban economy (e.g., Fordist resort towns in the French Alps, see Delorme, 2014) and sometimes a contrary flow of elite urbanites that occupy exclusive high-end gated communities, such as those in Montecito (US Sierra Nevada), or La Dehesa (Chilean Andes). The rural economy, at least from a structural perspective, is often in-between these poles (Donoso-Correa & Sarmiento, 2019). Demographic linkages, together with infrastructural and ecosystemic linkages (e.g., “cultural” ecosystem services, Schirpke et al., 2020), often come together to make verticality a locational advantage attracting visitors and/or investors. In this context, the role of transport infrastructure, for example, aerial cable cars, goes far beyond passenger transport and includes functions such as (1) social integrators (e.g., Leibler & Brand, 2012), (2) landmarks of modernity and *urbanité* (e.g., Haller et al., 2020), (3) scenic viewpoints (e.g., Aguirre Minvielle & Hermelin, 2011), and (4) and/or gateways to “nature” (e.g., Milman & Zehrer, 2018).

One of the most striking aspects in this regard is place branding—the construction of a narrative about a mountain city for its economic promotion to (1) increase its attractiveness for potential investors and visitors; (2) improve its position in tourism; (3) strengthen its labor market; (4) deepen the links between inhabitants and place; and (5) achieve economic and social improvement (Fernández Cavia, 2012: 107). In contrast to place marketing, place branding is rarely constructed entirely *ex-novo* but usually draws on the natural *and* cultural heritage of mountains (including “wild” or “rural” high-mountain sceneries, urban architecture, and rural–urban identities; (c.f., de San Eugenio Vela, 2013: 200). In this process, different actors (i.e., institutional and noninstitutional, public, and private) resort to storytelling to convey a unique and economically valuable image of the place. While media play a crucial role in establishing and dissipating place branding, the participation and acceptance of, and review by, local populations is also necessary for it to work. The case of Almaty (Kazakh Tian Shan) underlines that mountain cities deliberately make use of verticality and extended urbanization at different altitudinal zones (Cheng & Taylor, 2007).

8.3.5 *Sociocultural Linkages*

Sociocultural linkages are an extremely important element in the identity relationships between people and mountain environments. Identity is the feeling by which individuals perceive themselves—and are perceived by others—as part of the same social collectivity, even recognized as a UNESCO World Heritage, such as Quito in the Ecuadorian Andes. Relational, open, ambiguous, fluid, dynamic, multiple identities are not essences that individuals carry inscribed on their bodies, but socially and historically produced signifying constructions (Branca, 2017). And, in this sense, spaces are also culturally produced through generations, forming an integral part of the identities of human groups, of their histories, present and future projections, as “anthropological places,” “a principle of meaning for the people who live in it, and a principle of intelligibility for the person who observes it” (Augé, 1997: 52). These can be places within cities and towns, such as squares, bridges, and buildings, but also outside of the urban centers, such as forests, islands, or mountains.

The presence of mountains around cities—often outstanding, as in Innsbruck (Fig. 8.2) or Huaraz—goes beyond the mere question of “landscape,” and the mountain itself becomes an inseparable cultural and ontological place in the processes of the daily (re)production of the sociocultural identity of its inhabitants. In any case, the physical presence of the mountain does not necessarily imply that the inhabitants “see” it or, in other words, consider it an element of their cultural landscape and, therefore, a space of identity, an “anthropological place.”

This is the case, for example, of the “invention of the Tibidabo” mountain in Barcelona (Spanish Serra de Collserola), since “the approach to the mountain did not occur progressively and gradually over time, forming a cumulative process by superimposing historical moments, but was the result of a sudden change in the



Fig. 8.2 The city of Innsbruck (574 m a. s. l.), Austrian Alps, promotes an “alpine-urban” identity to attract investors and visitors alike. (*Source:* Andreas Haller)

mountain paradigm. Tibidabo, and the Serra de Collserola in general, seen as a limit or an obstacle in the city, entered into the urban imaginary all at once propitiating an exponential growth of interest until then absent” (Garriga Bosch, 2012). Something similar happened with Mount Royal in Montreal, first with the construction of its “mountainness” and then as a symbol of Canadian national identity: “One can identify the way in which the topographical qualities of Mount Royal and its location within the Canadian metropolis have allowed formal appropriation, and the symbolic display of nationalism. Its high points, once picturesque places, offered a ‘conspicuous beacon for many miles around’” (Debarbieux, 1998). Conversely, it may happen that, for various reasons related to changes in the perception of a near mountain, the identity links between the mountain and its inhabitants may become weaker, as in the case of Teheran and the Alborz Mountains studied by Dariush et al. (2020)—and if sociocultural linkages change, repercussions on economic, demographic, infrastructural, and ecosystemic linkages may follow.

8.4 Conclusion

In our imagination, cities are still often separate from the mountains, as if a wall delimited the urban and the rural. Many continue to consider mountain research a nonurban field of study, neglecting rural–urban interactions and extended urbanization processes that go far beyond what we commonly call a city. Scholars and students seeking a strict interpretation and application of the montological perspective should not make the same mistake. Given the processes of planetary urbanization, even many of the highest summit regions of the earth must now be considered urban

places in the mountainscape. It is important to understand that the manifold interconnections between the “urban” and the “rural” in mountain regions have special features due to their verticality that distinguish them from lowland regions. For heuristic reasons, these vertical rural–urban linkages can be divided into (1) ecosystemic linkages; (2) infrastructural linkages; (3) demographic linkages; (4) economic linkages; and (5) sociocultural linkages. However, these should not be interpreted as separate from each other, but as different aspects of the same network connecting the different altitudinal levels under the influence of planetary urbanization. Understanding the linkages between humans and their environment is of particular importance. The transdisciplinary research approach of urban montology aims to take up this awareness, raise it, and use it in concrete regional contexts to explore how the material and non-material dimensions of mountains influence the form, structure, function, and genesis of urban areas—and to facilitate the transition from urbanizing mountain spaces to places fit for humans and nonhumans to live in the cityscape.

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